

09593000-40904

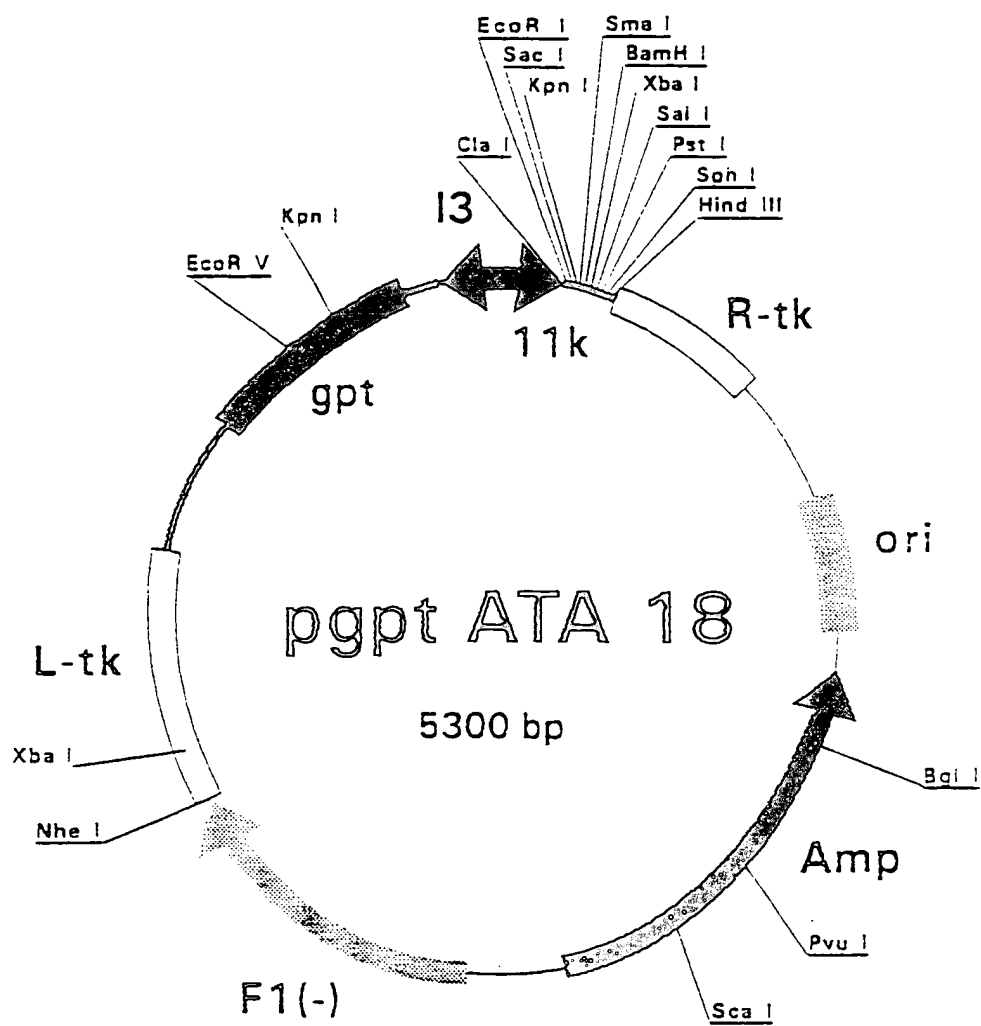


Fig. 1

FO5277 00055550

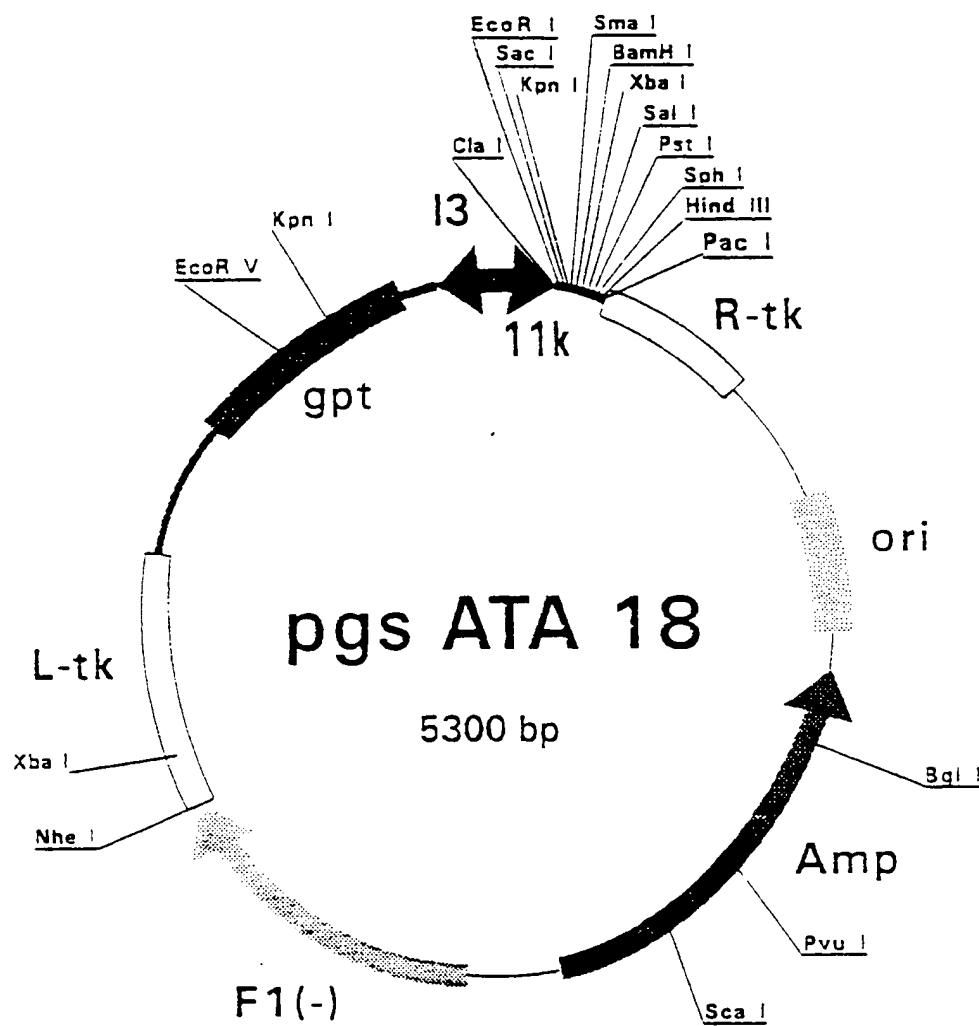


Fig. 2

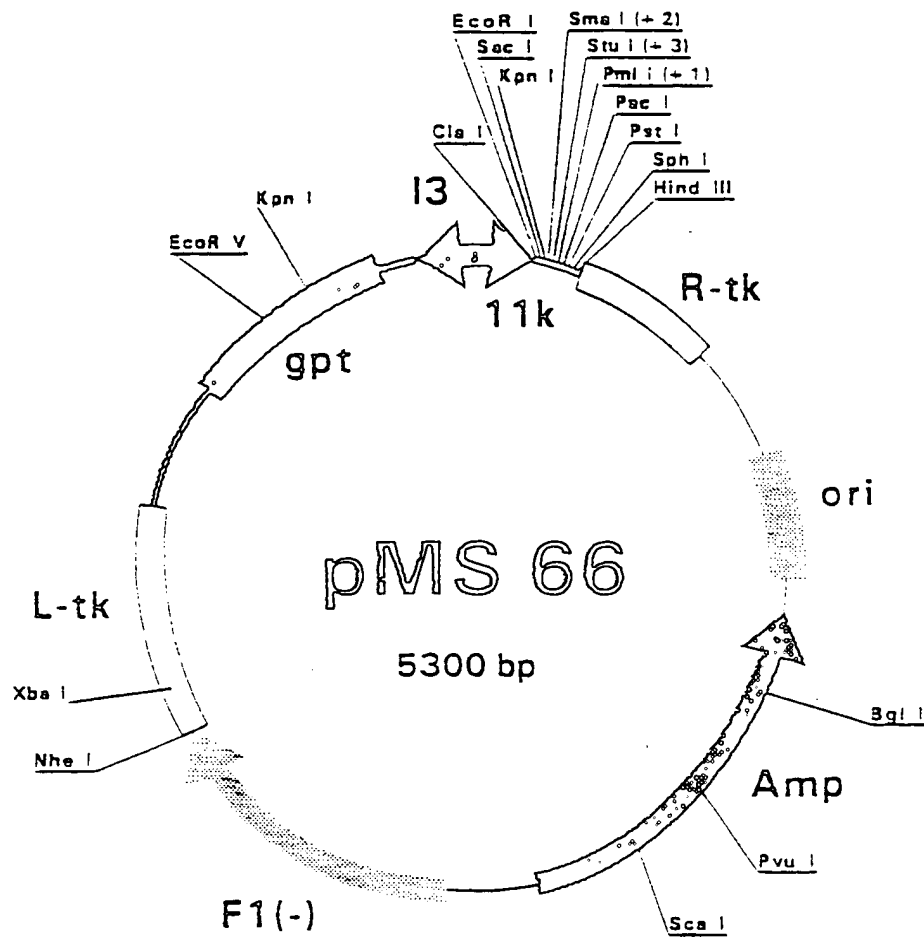


Fig. 3

095550-1000
095550-1000
095550-1000

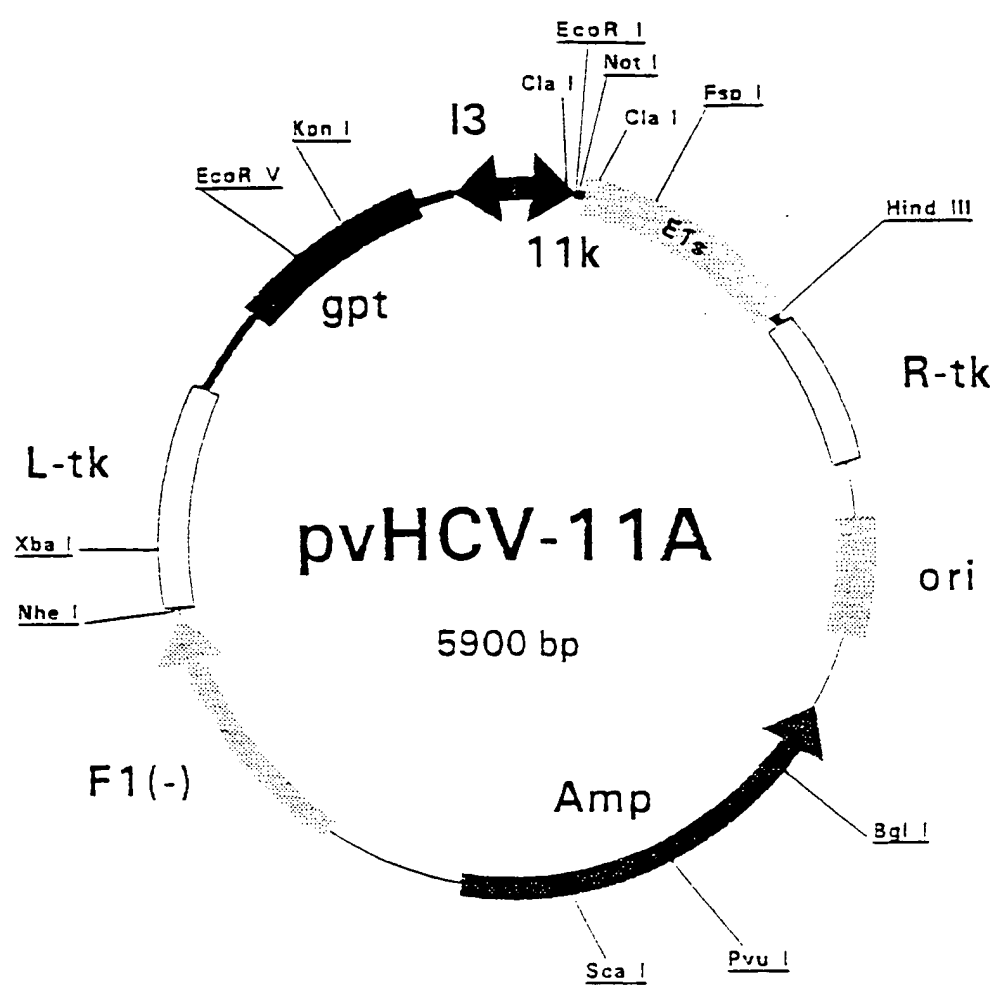


Fig. 4

Anti-E1 levels in NON-responders to IFN treatment

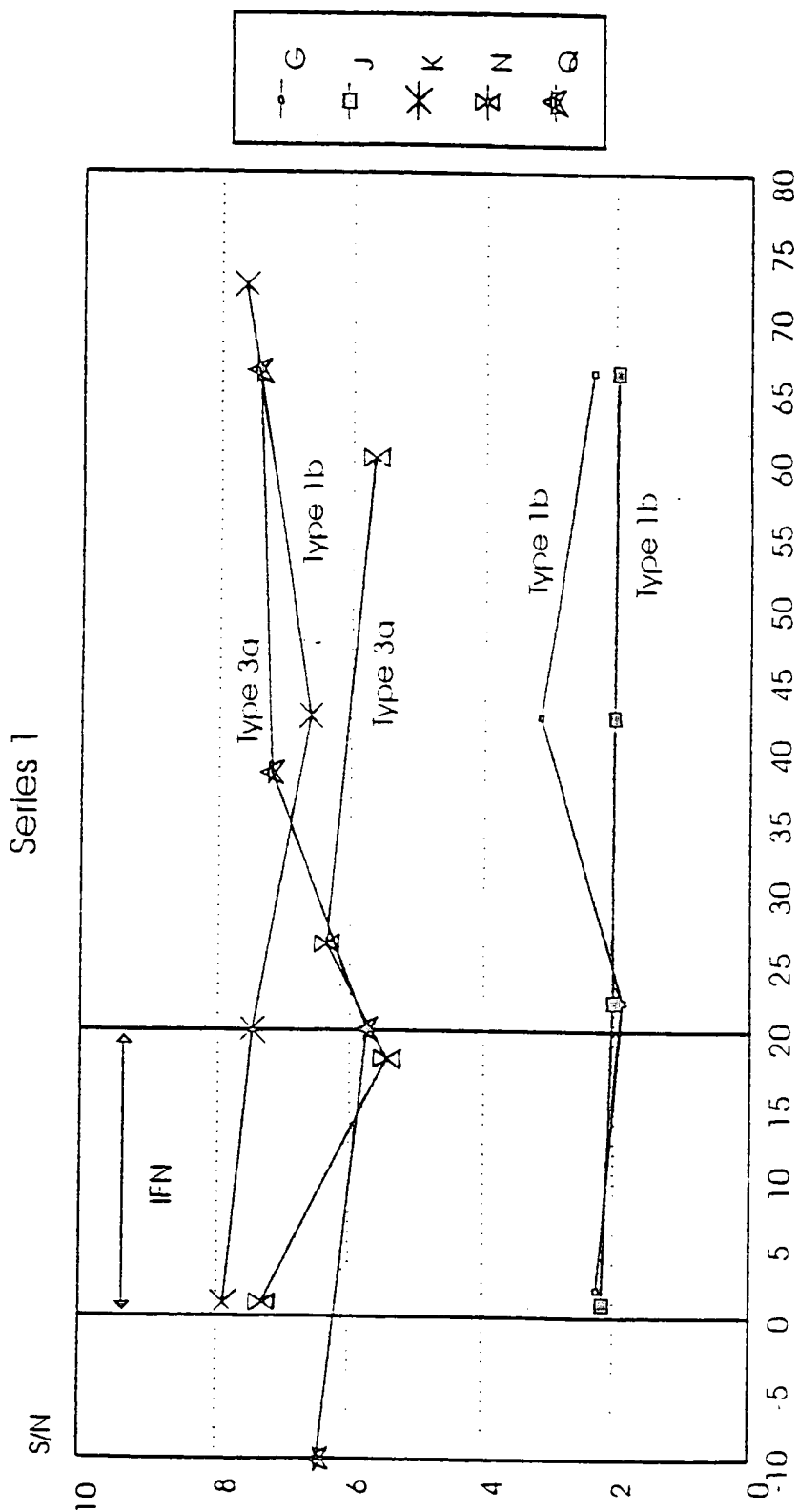
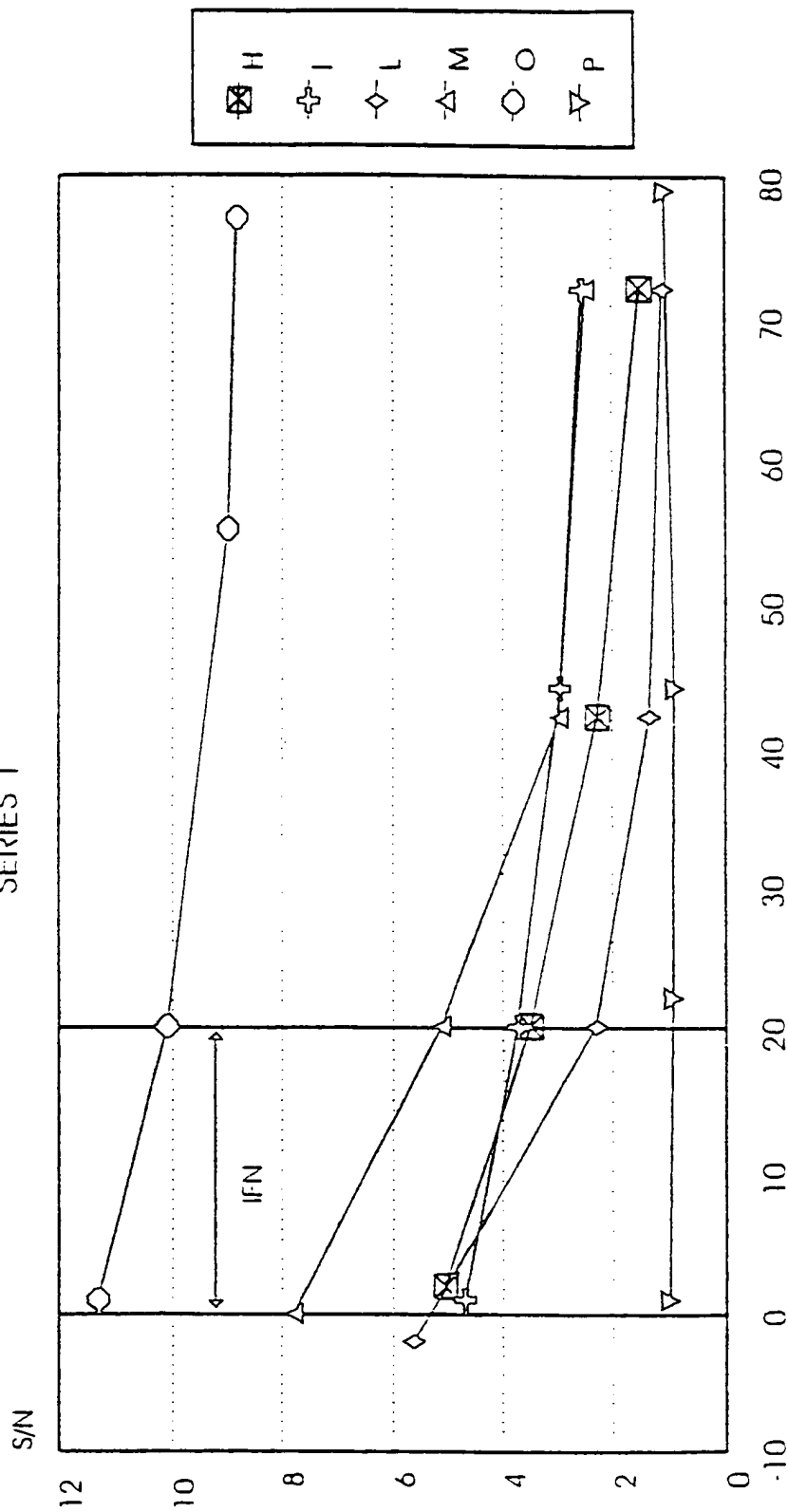


Fig. 5

Anti-E1 levels in RESPONDERS to IFN treatment

SERIES 1

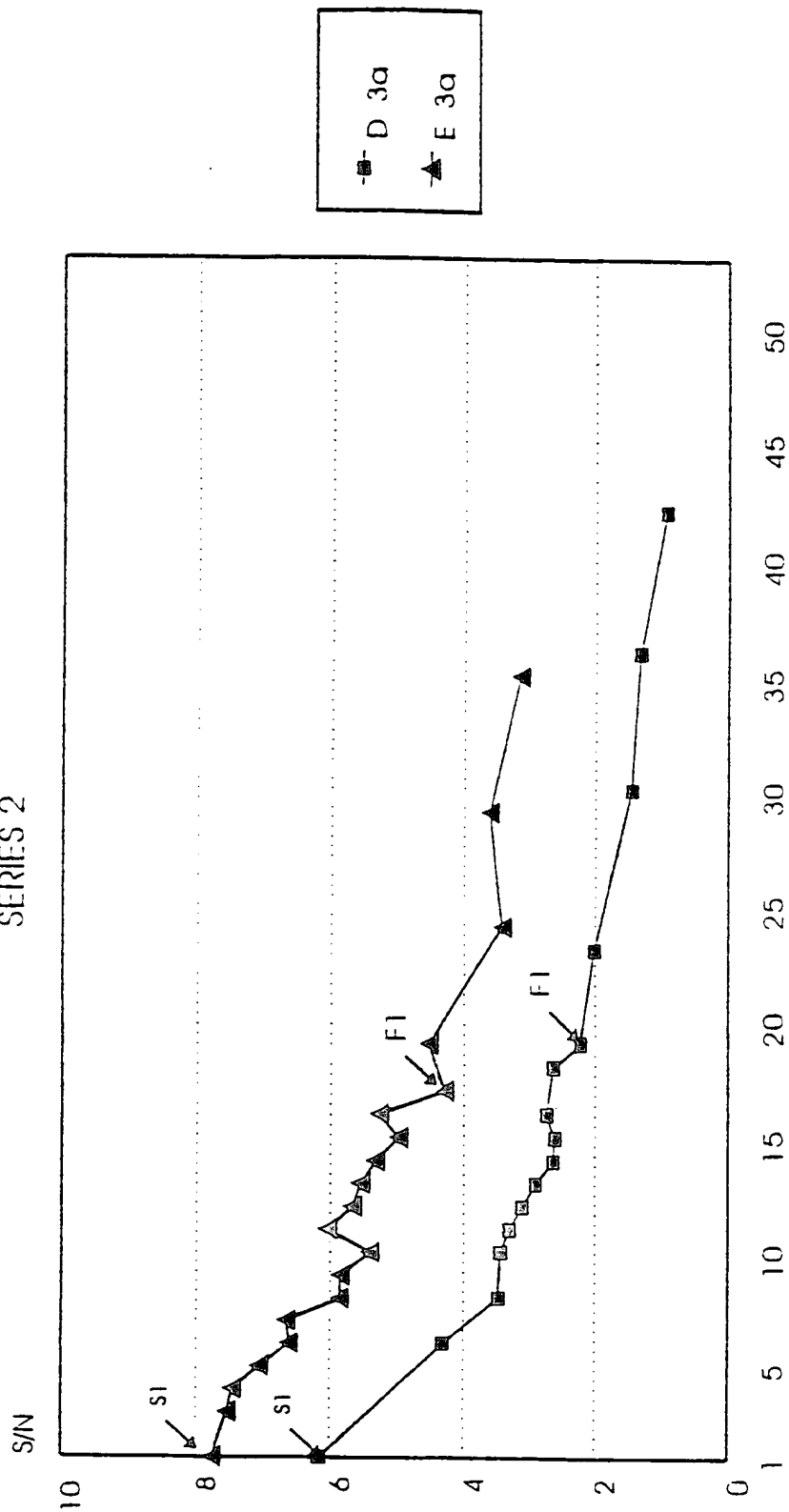


weeks after start of treatment

Fig. 6

Anti-E1 levels in patients with COMPLETE response to IFN

SERIES 2

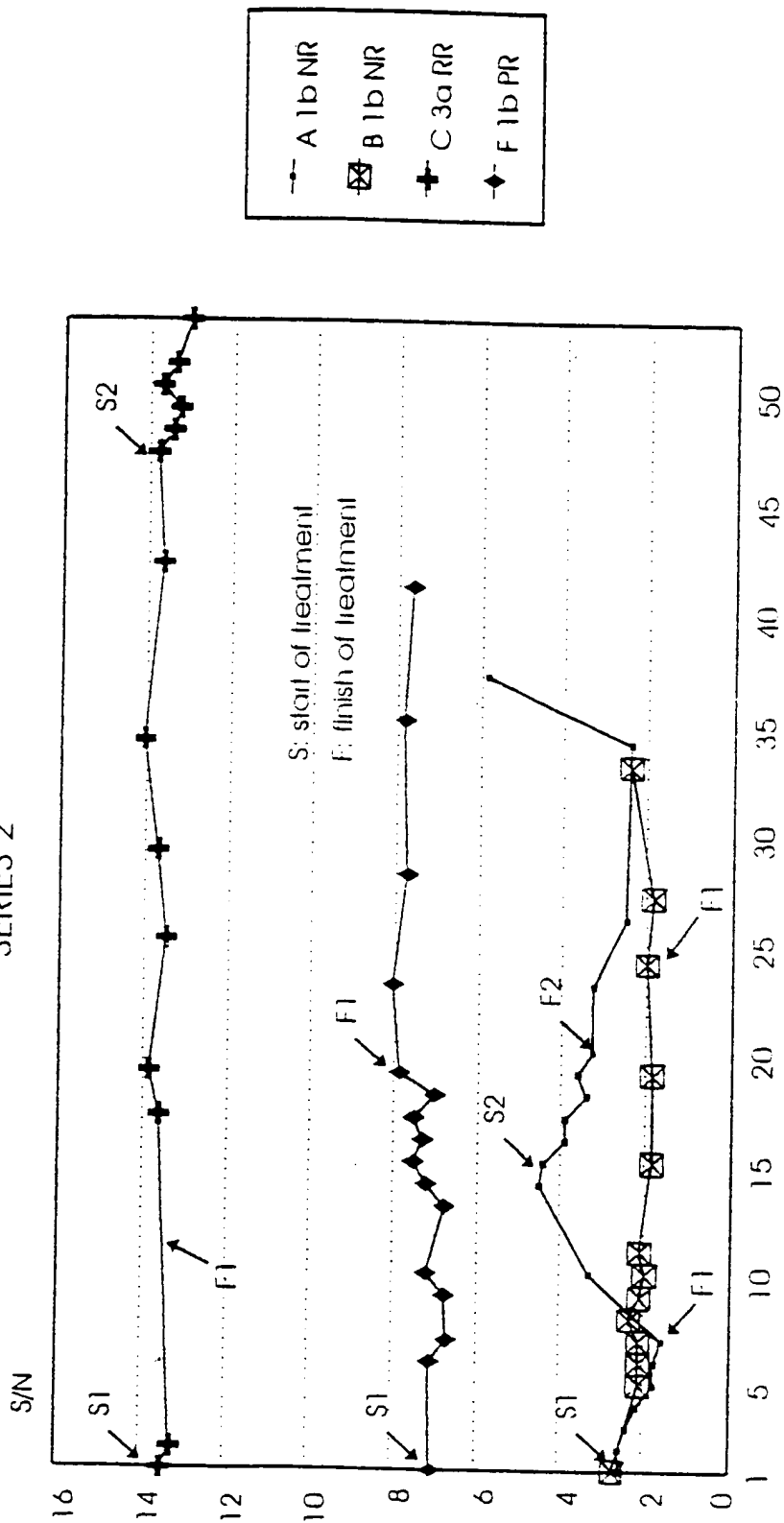


months after start of treatment

Fig. 7

Anti-E1 levels in INCOMPLETE responders to IFN treatment

SERIES 2

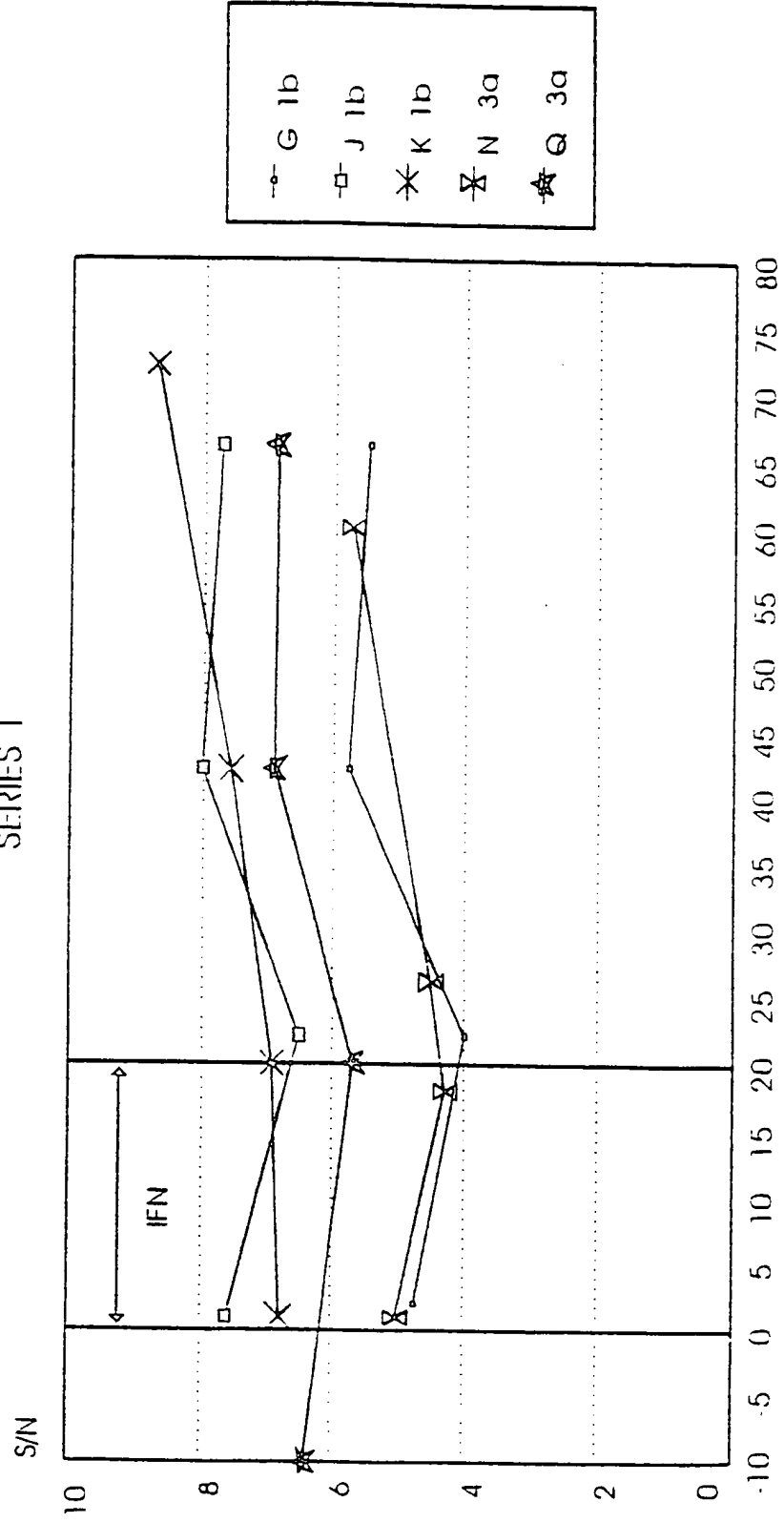


months after start of treatment

Fig. 8

Anti-E2 levels in NON-RESPONDERS to IFN treatment

SERIES 1



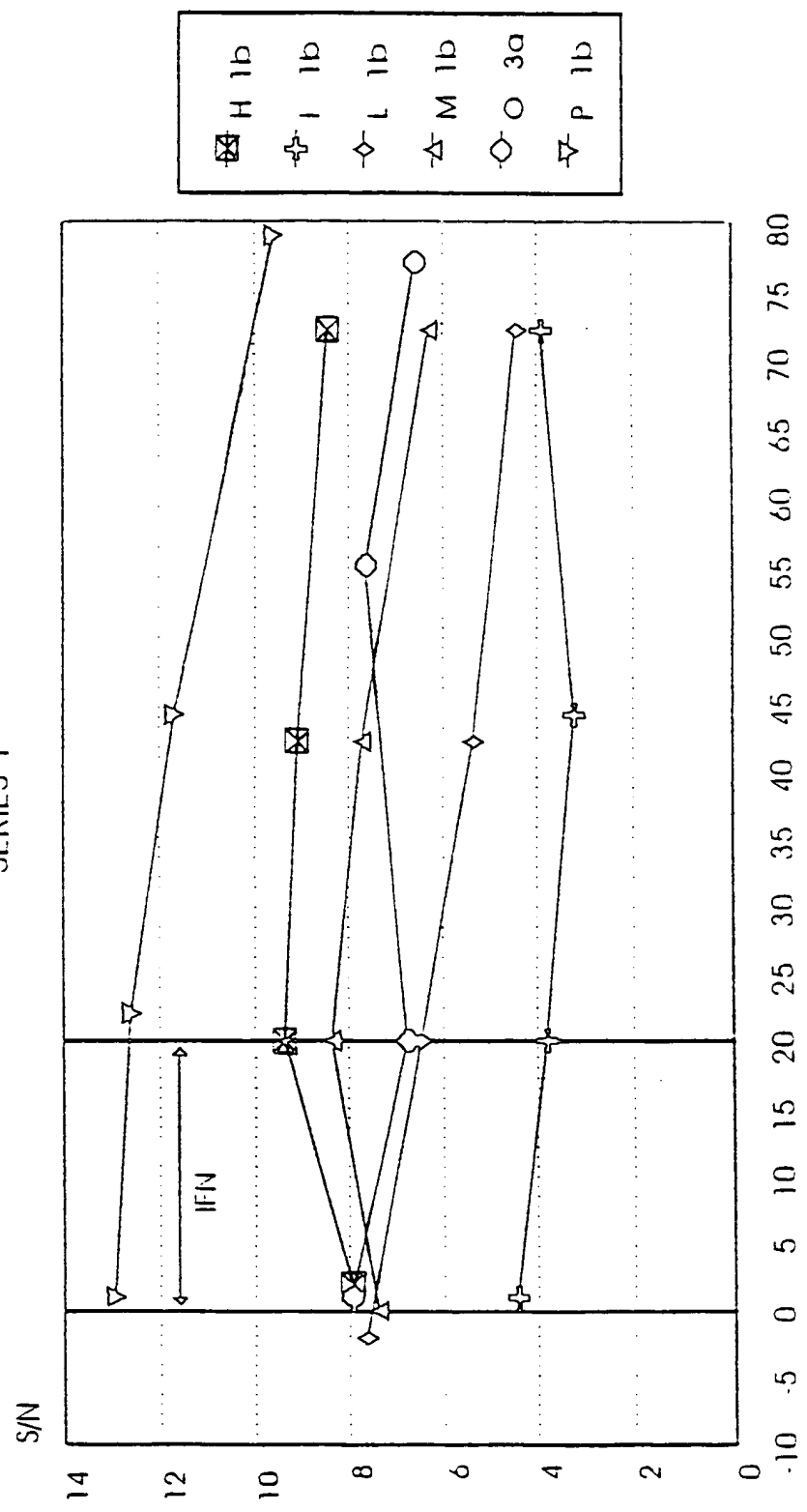
weeks after start of treatment

Fig. 9

FOOT " 00000000

Anti-E2 levels in RESPONDERS to IFN treatment

SERIES 1

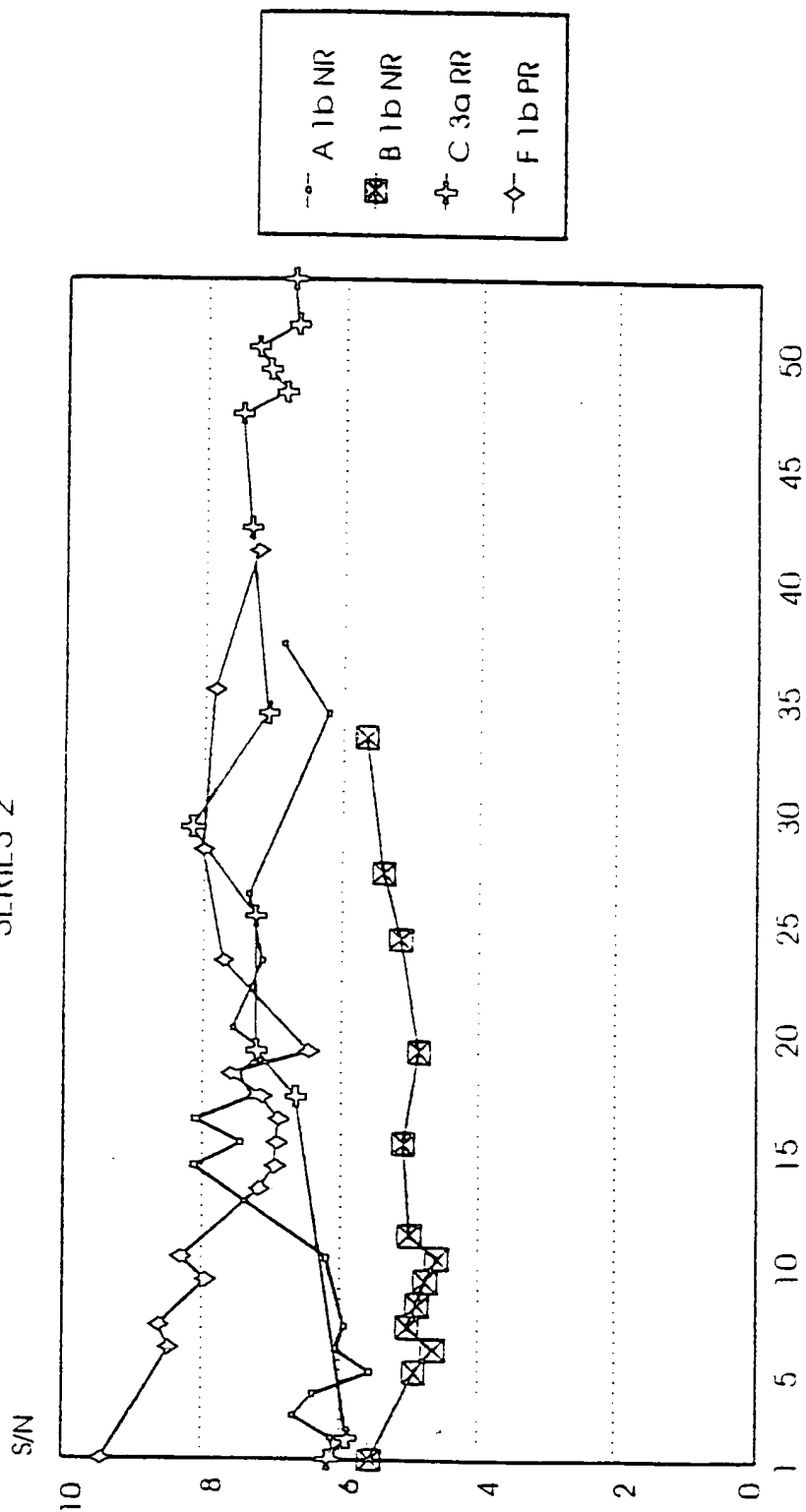


weeks after start of treatment

Fig.10

Anti-E2 levels in INCOMPLETE responders to IFN treatment

SERIES 2



months after start of treatment

Fig.11

Anti-E2 levels in COMPLETE responders to IFN treatment

SERIES 2

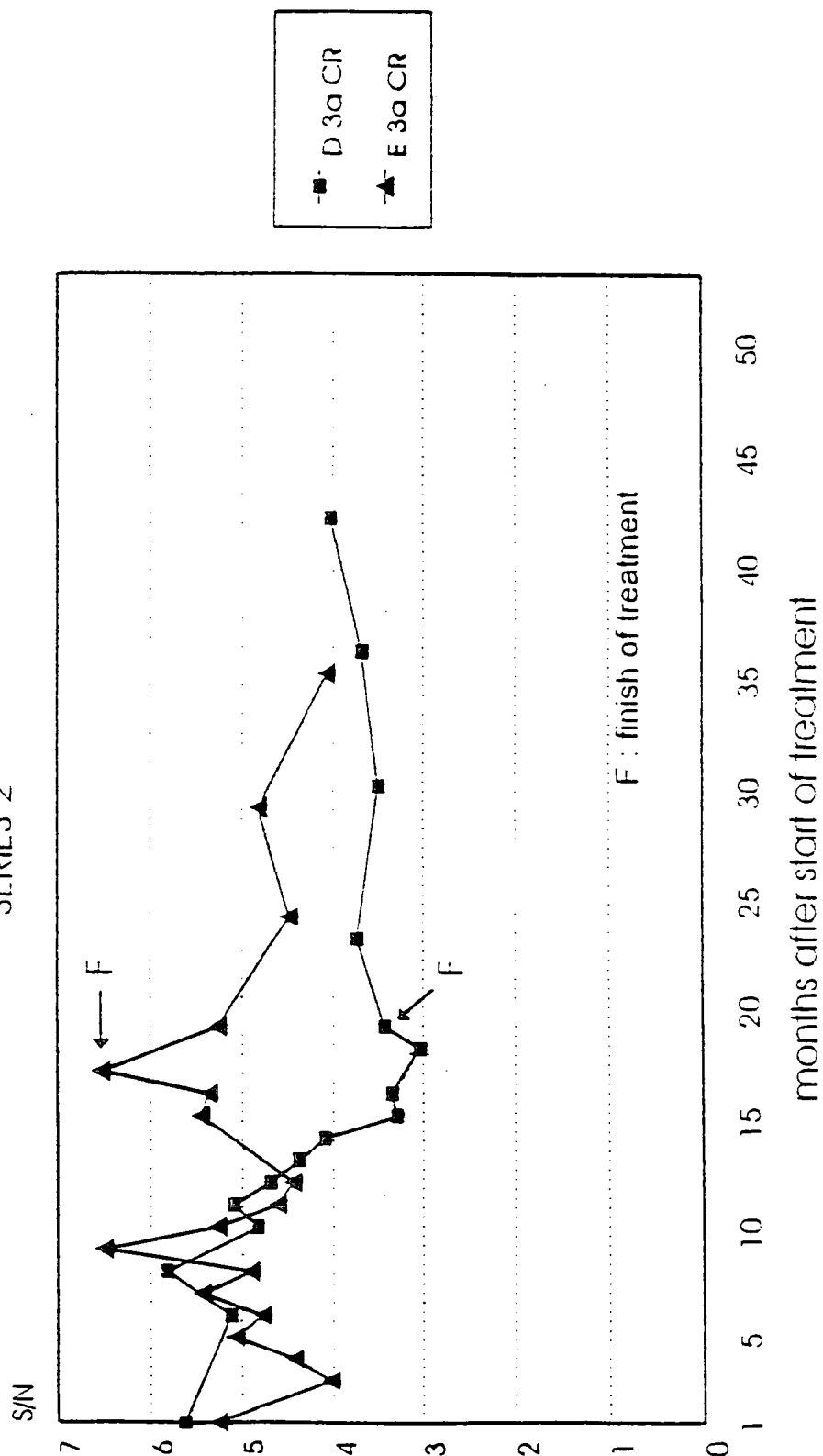


Fig.12

Human anti-E1 reactivity competed with peptides

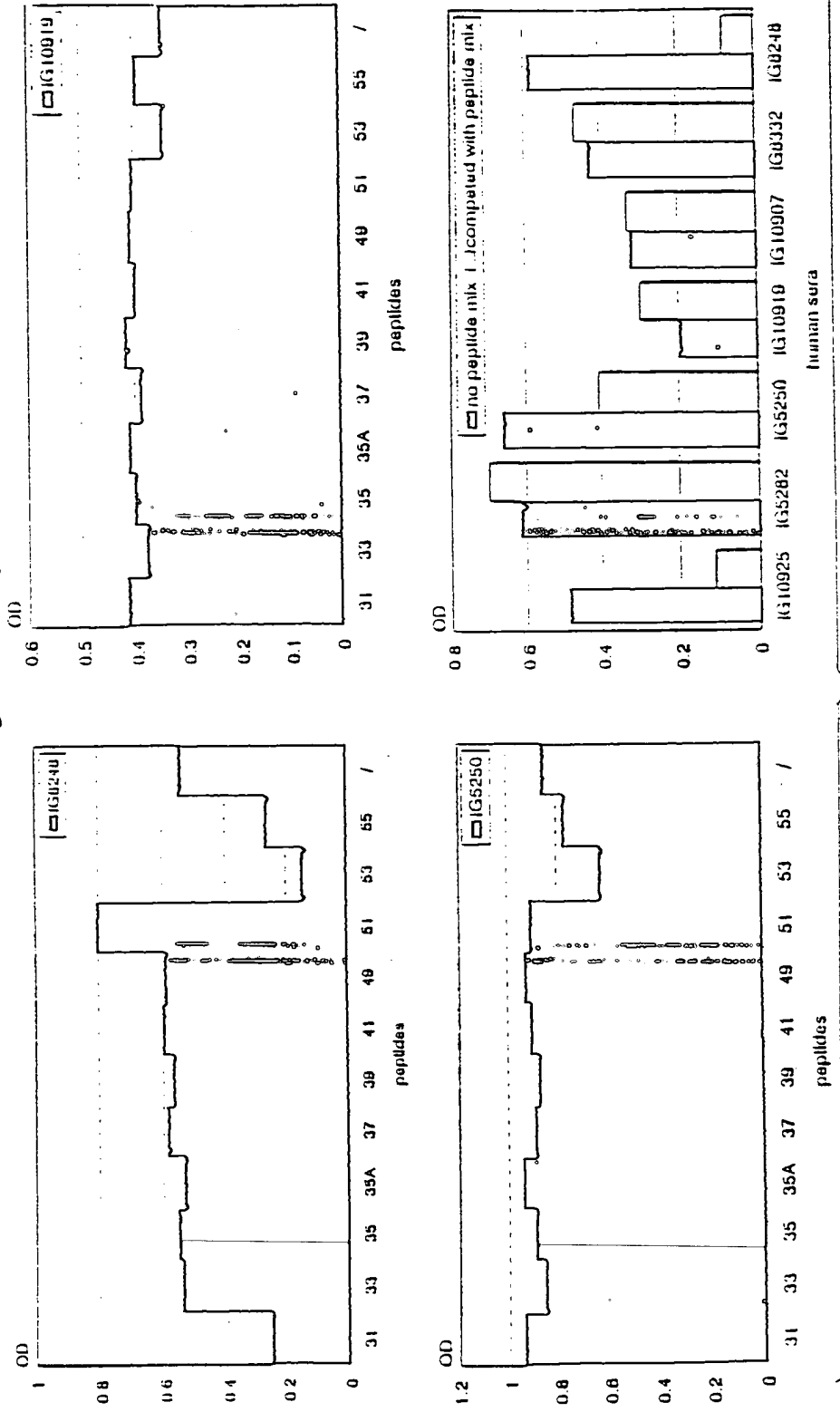


Fig.13

[illegible]

Competition of reactivity of anti-E1 Mabs with peptides

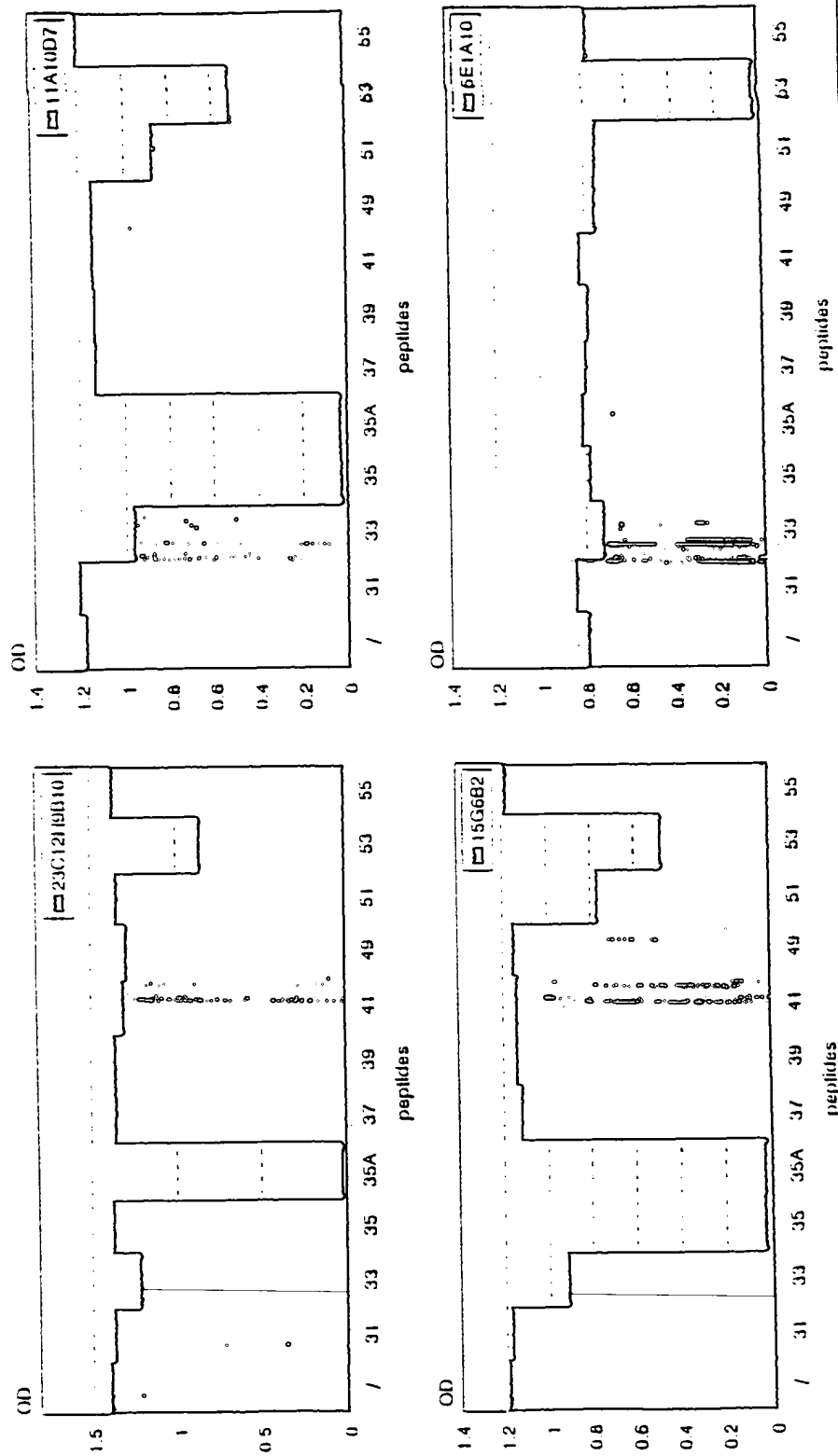
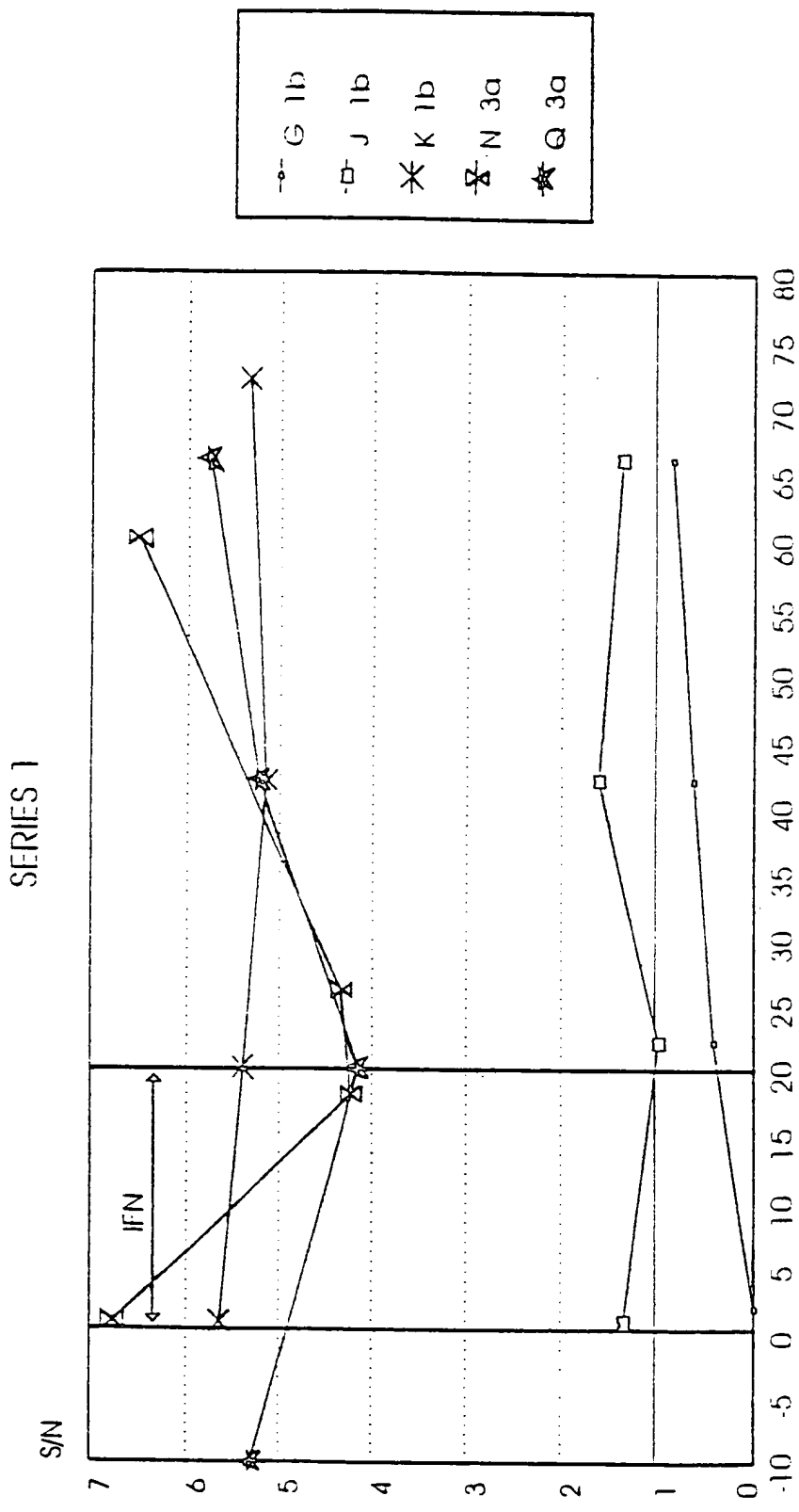


Fig. 14

Anti-E1 (epitope 1) levels in NON-RESPONDERS to IFN treatment



weeks after start of treatment

Fig.15

Anti-E1 (epitope 1) levels in RESPONDERS to IFN treatment

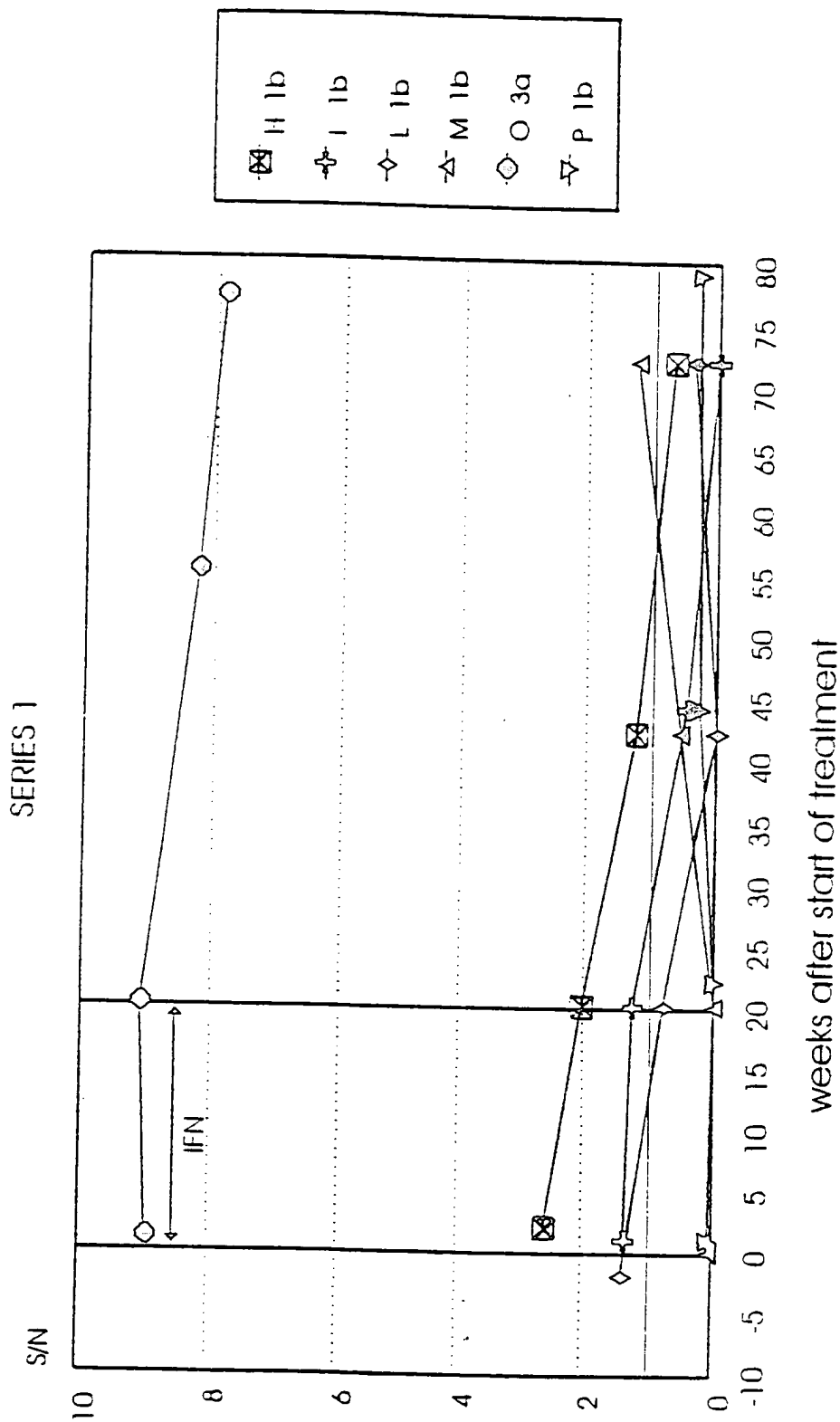


Fig.16

Anti-E1 (epitope 2) levels in NON-RESPONDERS to IFN treatment

SERIES 1

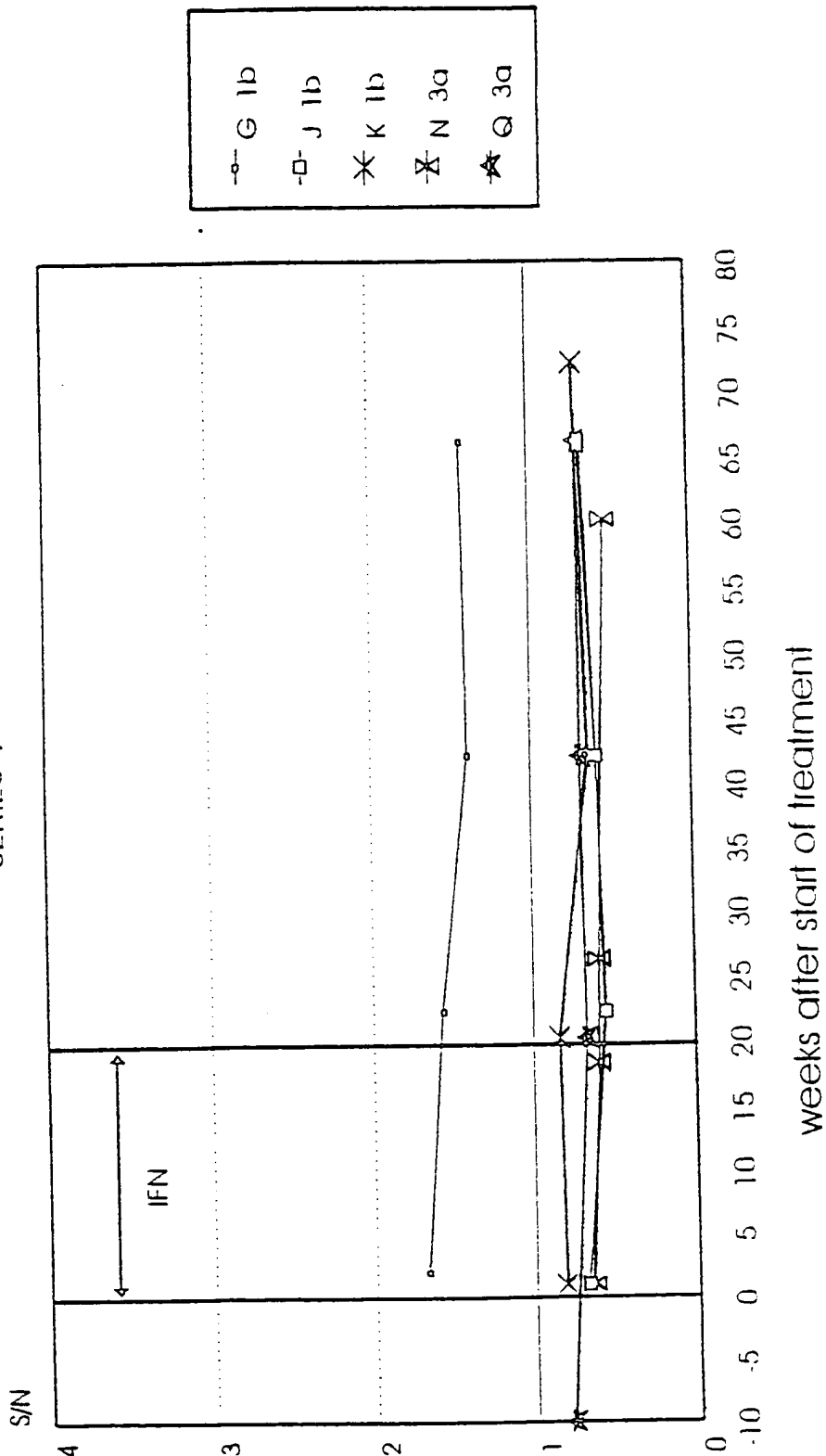


Fig.17

Anti-E1 (epitope 2) levels in RESPONDERS to IFN treatment

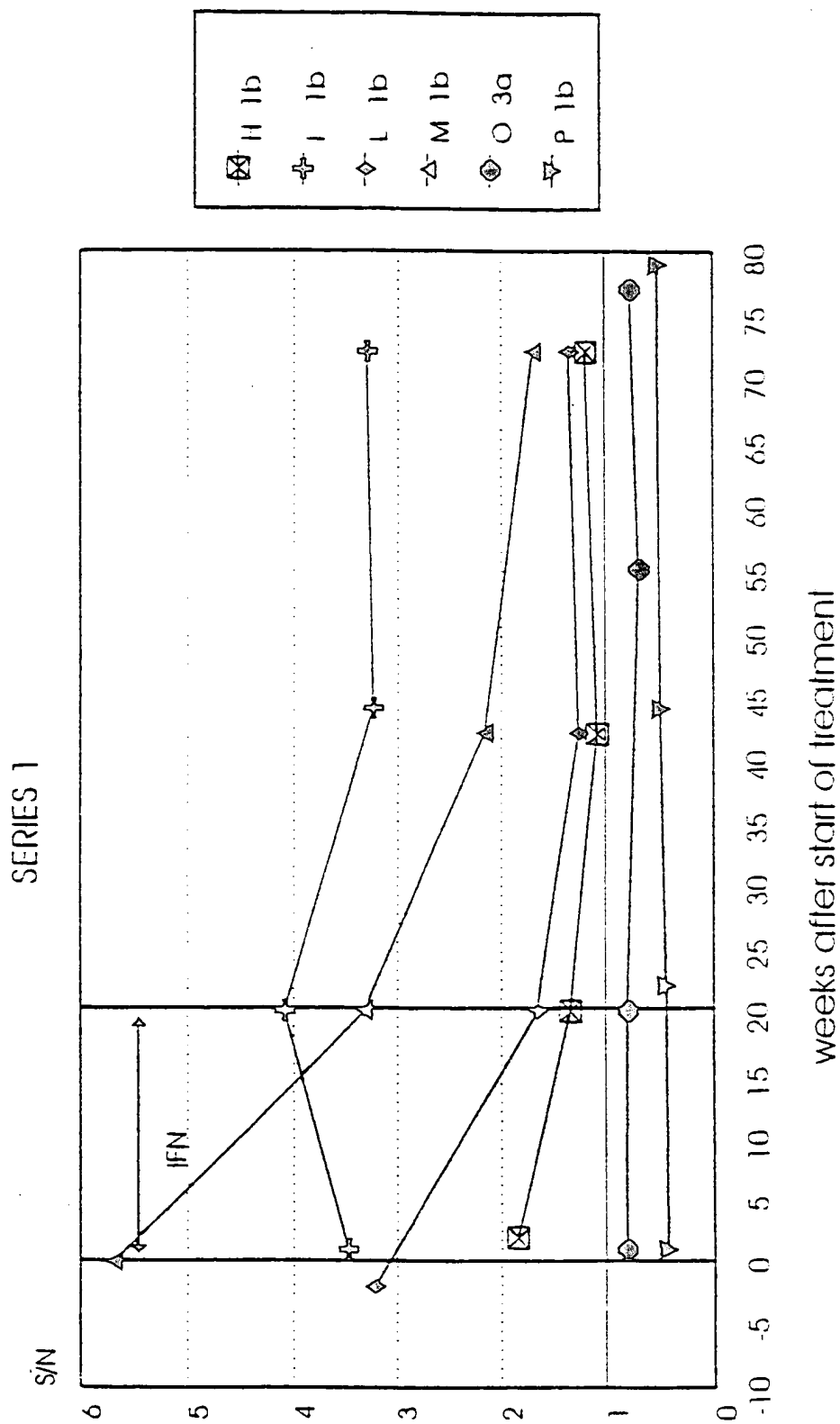


Fig. 18

Competition of reactivity of anti-E2 Mabs with peptides

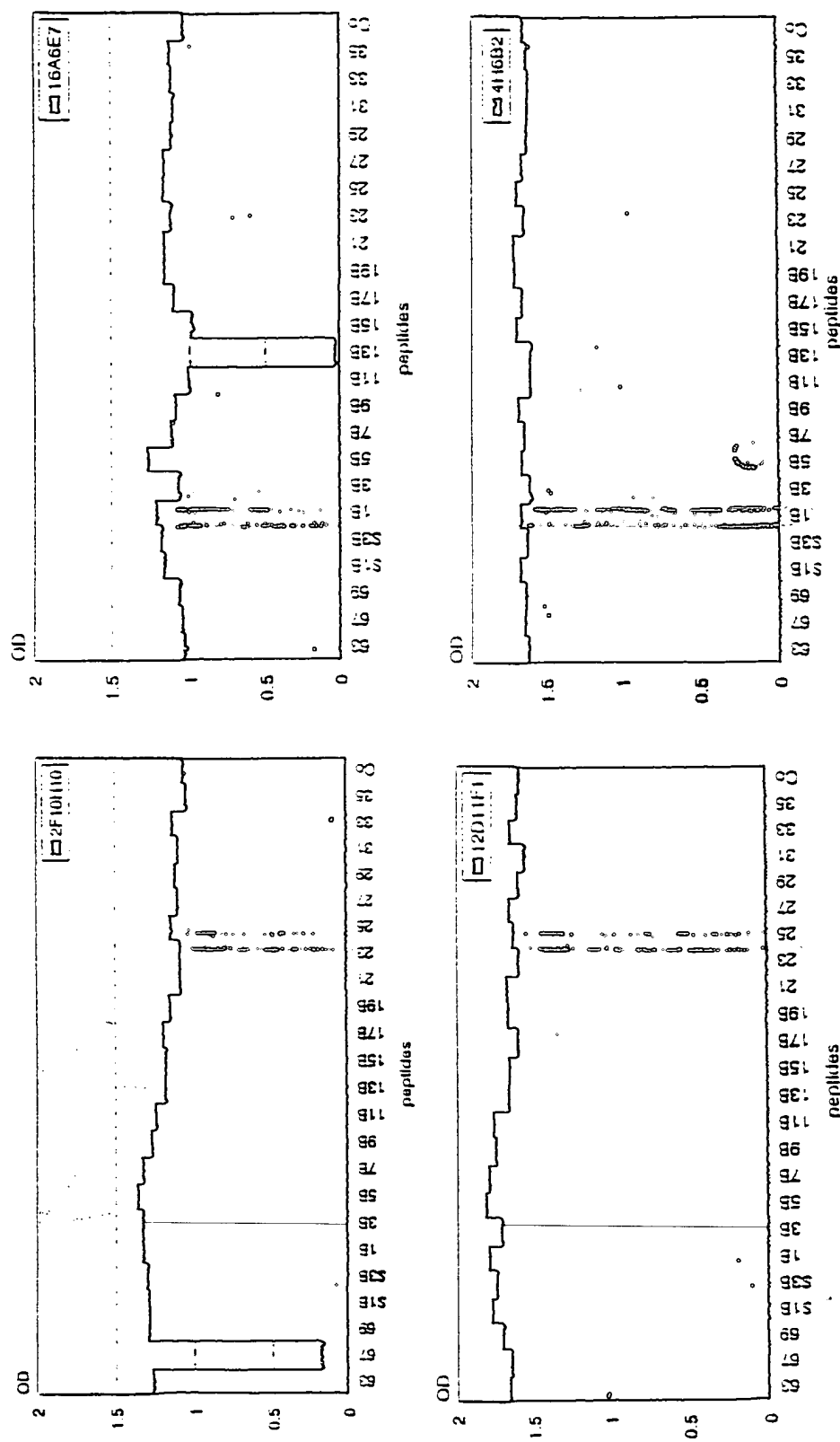


Fig.19

• 1950-1951



sequit

[illegible]

5

5'CCGGGGGAGGCCTGCACGTGATCGAGGGGCAGACACCATCACCACCATCACTAATAGT
TAATTAAGTCA 3' (SEQ ID NO 2)

3'CCTCCGGACGTGCACTAGCTCCCGTCTGTGGTAGTGGTGGTAGTGATTATCAATTAATTG
5' (SEQ ID NO 95)

ATGCCCGGTTGCTCTTTCTCTATCTTCCTCTTGGCTTTACTGTCTGTCTGACCAATTCAG
GCTTCCGCTTATGAGGTGCGCAACGTGTCCGGGATGTACCATGTACGAAACGACTGCT
CCAACTCAAGCATTGTGTATGAGGCGAGCGGACATGATCATGCACACCCCCCGGTGGGT
GCCCTGCGTTCCGGGAGAACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTC
GCAGCTAGGAACGCCAGCGTCCCCACCACGACAATACGACGCCACGTCGATTTGCTCG
TTGGGGCGGGCTGCTCTCTGTTCCGCTATGTACGTGGGGGATCTCTGCGGATCTGTCTTC
CTCGTCTCCCAGCTGTTCACCATCTCGCCTCGCCGGCATGAGACGGTGCAGGACTGCA
ATTGCTCAATCTATCCCGGCCACATAACAGGTACCGTATGGCTTGGGATATGATGAT
GAACTGGTCGCCTACAACGGCCCTGGTGGTATCGCAGCTGCTCCGGATCCCACAAGCT
GTCGTGGACATGGTGGCGGGGGCCCATTTGGGGAGTCCTGGCGGGCCTCGCCTACTATT
CCATGGTGGGGAACCTGGGCTAAGGTTTTGATTGTGATGCTACTCTTTGCTCTCTAATAG

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TTCCGCTCGTCGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG
GGTTCTGGAGGACGGCGTGAACATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT
ATCTTCCTCTTGGCTTTGCTGTCTGTGACCGTTCCAGCTTCCGCTTATGAAGTGCG
CAACGTGTCCGGGATGTACCATGTCACGAACGACTGCTCCAACCTCAAGCATTGTGTAT
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCGGGAGAAC
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG
TCCCCACCACGACAATACGACGCCACGTGATTTGCTCGTTGGGGCGGCTGCTTTCTG

[illegible]

SEQ ID NO 7 (HCC111A)

SEQ ID NO 9 (HCC112A)

SEQ ID NO 11 (HCCI13A)

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GCTTCCGCTTATGAAGTGCGCAACGTGTCCGGGGTGTACCATGTCACGAACGACTGCT
CCAACTCAAGCATAGTGTATGAGGCAGCGGACATGATCATGCACACCCCGGGGTGCGT

Fig. 21C

GCCCTGCGTTCCGGAGGGCAACTCCTCCCGTTGCTGGGTGGCGCTCACTCCCACGCTC
GCGGCCAGGAACGCCAGCGTCCCCACAACGACAATACGACGCCACGTGCAATTTGCTC
GTTGGGGCTGCTGCTTTCTGTTCCGCTATGTACGTGGGGGATCTCTGCGGATCTGTTTT
CCTTGTTTTCCAGCTGTTTACCTTCTCACCTCGCCGGCATCAAACAGTACAGGACTGCA
ACTGCTCAATCTATCCCGGCCATGTATCAGGTCAACGCATGGCTTGGGATATGATGAT
GAACTGGTAATAG

SEQ ID NO 13 (HCC117A)

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TTCCGCTCGTGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG
GGTTCTGGAAGACGGCGTGAACATGCAACAGGGAATTTGCCTGGTTGCTCTTTCTCTA
TCTTCCTCTTGGCTTTACTGTCTGTCTAACCATTCCAGCTTCCGCTTACGAGGTGCGC
AACGTGTCCGGATGTACCATGTCCAGAACGACTGCTCCAACCTCAAGCATTGTGTATG
AGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCCGGGAGAACA
ACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCGGCTAGGAACGCCAGCAT
CCCCACTACAACAATACGACGCCACGTGCAATTTGCTCGTTGGGGCGGCTGCTTTCTGTT
CCGCTATGTACGTGGGGGATCTCTGCGGATCTGTCTTCTCTGCTCTCCAGCTGTTTACC
ATCTCGCCTCGCCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCC
ACATAACGGGTCAACGCTATGGCTTGGGATATGATGATGAACTGGTACTAATAG

SEQ ID NO 15 (HCP151)

ATGCCCGGTTGCTCTTTCTCTATCTT

SEQ ID NO 16 (HCP152)

ATGTTGGGTAAAGGTCATCGATACCCT

SEQ ID NO 17 (HCP153)

CTATTAGGACCAGTTCATCATCATATCCCA

SEQ ID NO 18 (HCP154)

CTATTACCAGTTCATCATCATATCCCA

SEQ ID NO 19 (HCP107)

ATACGACGCCACGTGCAATCCCAGCTGTTTACCATC

CCGCTCGTGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG

Fig. 21D

SEQ ID NO 20 (HCP108)

GATGGTGAACAGCTGGGAATCGACGTGGCGTCGTAT

SEQ ID NO 21 (HCC137)

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TTCCGCTCGTCGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG
GGTTCTGGAGGACGGCGTGAACATATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT
ATCTTCCTCTTGGCTTTGCTGTCTGTCTGACCGTTCCAGCTTCCGCTTATGAAGTGCG
CAACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACTCAAGCATTGTGTAT
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCCGGGAGAAC
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG
TCCCCACCACGACAATACGACGCCACGTGATTCCCAGCTGTTCAACCATCTCGCCTCG
CCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCCACATAACGGGT
CACCGTATGGCTTGGGATATGATGATGAACTGGTCCCTACAACGGCCCTGGTGGTAT
CGCAGCTGCTCCGGATCCACAAAGCTGTCTGGACATGGTGGCGGGGGGCCATTGGGG
AGTCCTGGCGGGTCTCGCCTACTATTCCATGGTGGGGAAGTGGGCTAAGGTTTTGATTG
TGATGCTACTCTTTGCTCCCTAATAG

SEQ ID NO 23 (HCC138)

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GGTTCTGGAGGACGGCGTGAACATATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT
ATCTTCCTCTTGGCTTTGCTGTCTGTCTGACCGTTCCAGCTTCCGCTTATGAAGTGCG
CAACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACTCAAGCATTGTGTAT
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCCGGGAGAAC
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG
TCCCCACCACGACAATACGACGCCACGTGATTCCCAGCTGTTCAACCATCTCGCCTCG
CCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCCACATAACGGGT
CACCGTATGGCTTGGGATATGATGATGAACTGGTAA
TAG

SEQ ID NO 25 (HCC139)

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TTCCGCTCGTCGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG
GGTTCTGGAGGACGGCGTGAACATATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT

Fig. 21E

ATCTTCCTCTTGGCTTTGCTGTCTGTCTGACCGTTCCAGCTTCCGCTTATGAAGTGCG
CAACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACCTCAAGCATTGTGTAT
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCGGGAGAAC
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG
TCCCCACCACGACAATACGACGCCACGTGCGATTCCCAGCTGTTACCATCTCGCCTCG
CCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCCACATAACGGGT
CACCGTATGGCTTGGGATATGATGATGAACTGGTGCCTACAACGGCCCTGGTGGTAT
CGCAGCTGCTCCGGATCCTCTAATAG

SEQ ID NO 27 (HCC140)

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TTCCGCTCGTGGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG
GGTTCTGGAGGACGGCGTGAACCTATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT
ATCTTCCTCTTGGCTTTGCTGTCTGTCTGACCGTTCCAGCTTCCGCTTATGAAGTGCG
CAACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACCTCAAGCATTGTGTAT
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCGGGAGAAC
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG
TCCCCACCACGACAATACGACGCCACGTGCGATTCCCAGCTGTTACCATCTCGCCTCG
CCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCCACATAACGGGT
CACCGTATGGCTTGGGATATGATGATGAACTGGTGCCTACAACGGCCCTGGTGGTAT
CGCAGCTGCTCCGGATCGTGATCGAGGGCAGACACCATCACCACCATCACTAATAG

SEQ ID NO 29 (HCC162)

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CGCTCGTCCGGCGCTCCCGTAGGAGGCGTCGCAAGAGCCCTTGCGCATGGCGTGAGGGC
CCTTGAAGACGGGATAAAATTCGCAACAGGGAATTTGCCCGGTTGCTCCTTTTCTATTT
TCCTTCTCGCTCTGTTCTCTTGCTTAATTCATCCAGCAGCTAGTCTAGAGTGCGGGAAT
ACGTCTGGCCTCTATGTCTTACCAACGACTGTTCCAATAGCAGTATTGTGTACGAGGC
CGATGACGTTATTCTGCACACACCCGGCTGCATACCTTGTGTCCAGGACGGCAATACA
TCCACGTGCTGGACCCCGAGTGACACCTACAGTGGCAGTCAAGTACGTCCGAGCAACCA
CCGCTTCGATACGCAGTCATGTGGACCTATTAGTGGGCGCGGCCACGATGTGCTCTGC
GCTCTACGTGGGTGACATGTGTGGGGCTGTCTTCCTCGTGGGACAAGCCTTCACGTTCA
GACCTCGTCGCCATCAAACGGTCCAGACCTGTAACCTGCTCGCTGTACCCAGGCCATCT
TTCAGGACATCGAATGGCTTGGGATATGATGATGAACTGGTAATAG

FIG. 21E

Questions are asked about the following:

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CTATTATGGTGGTAAKGCCARCAAGAGCAGGAG

TGGGATATGATGATGAACTGGTCGCCTACAACGGCCCTGGTGGTATCGCAGCTGCTCC
GGATCCCACAAGCTGTGCTGGACATGGTGGCGGGGGGCCCAATTGGGGAGTCCTGGCGG
GCCTCGCCTACTATTCCATGGTGGGGAAGTGGGCTAAGGTTTTGGTTGTGATGCTACTC
TTTGCCGGCGTCGACGGGCATACCCGCGTGTGAGGAGGGGCAGCAGCCTCCGATACCA
GGGGCCCTTGTGTCCCTCTTTAGCCCCGGGTGGGCTCAGAAAATCCAGCTCGTAAACAC
CAACGGCAGTTGGCACATCAACAGGACTGCCCTGAACTGCAACGACTCCCTCCAAAC
AGGGTTCTTTGCCGCACTATTCTACAAACACAAATTCAACTCGTCTGGATGCCAGAG
CGCTTGGCCAGCTGTGCTCCATCGACAAGTTCGCTCAGGGGTGGGGTCCCTCACTT
ACACTGAGCCTAACAGCTCGGACCAGAGGCCCTACTGCTGGCAGTACGCGCCTCGACC
GTGTGGTATTGTACCCGCGTCTCAGGTGTGCGGTCCAGTGTAATTGCTTCACCCCGAGCC
CTGTTGTGGTGGGGACGACCGATCGGTTTGGTGTCCCCACGTATAACTGGGGGGCGAA
CGACTCGGATGTGCTGATTCTCAACAACACGCGGCCGCCGCGAGGCAACTGGTTCGGC
TGTACATGGATGAATGGCACTGGGTTACCAAGACGTGTGGGGGGCCCCCGTGCAACA
TCGGGGGGGGCCGGCAACAACACCTTGACCTGCCCCACTGACTGTTTTCGGAAGCACCC
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[illegible]

SEQ ID NO 37 (HCC141)

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TTGCCGGCCTCGACGGGCATACCCGCGTGTCAAGAGGGGCAGCAGCCTCCGATACCA
GGGGCCCTTGTGTCCCTCTTTAGCCCCGGGTGCGGCTCAGAAAATCCAGCTCGTAAACAC
CAACGGCAGTTGGCACATCAACAGGACTGCCCTGAACTGCAACGACTCCCTCCAAAC
AGGGTTCTTTGCCGCACTATTCTACAAACACAAATTCAACTCGTCTGGATGCCCGAGAG
CGCTTGGCCAGCTGTGCTCCATCGACAAGTTGCTCAGGGGTGGGGTCCCTCACTT
ACACTGAGCCTAACAGCTCGGACCAGAGGCCCTACTGCTGGCACTACGCGCCTCGACC
GTGTGGTATTGTACCCGCGTCTCAGGTGTGCGGTCCAGTGTATTGCTTCACCCCGAGCC
CTGTTGTGGTGGGGACGACCGATCGGTTTGGTGTCCCCACGTATAACTGGGGGGCGAA
CGACTCGGATGTGCTGATTCTCAACAACACGCGGCCGCCGCGAGGCAACTGGTTCGGC
TGTACATGGATGAATGGCACTGGGTTACCAAGACGTGTGGGGGGCCCCCGTGCAACA
TCGGGGGGGGCCGGCAACAACACCTTGACCTGCCCACTGACTGTTTTCGGAAGCACCC
CGAGGCCACCTACGCCAGATGCGGTTCTGGGCCCTGGCTGACACCTAGGTGTATGGTT
CATTACCCATATAGGCTCTGGCACTACCCCTGCACTGTCAACTTCACCATCTTCAAGGT
TAGGATGTACGTGGGGGGCGTGGAGCACAGGTTTGAAGCCGCATGCAATTGGACTCG
AGGAGAGCGTTGTGACTTGGAGGACAGGGATAGATCAGAGCTTAGCCCGCTGCTGCTG
TCTACAACAGAGTGGCAGAGTGGCAGAGCTTAATTAATTAG

SEQ ID NO 39 (HCCI42)

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CCTCGCCTACTATTCCATGGTGGGGAACTGGGCTAAGGTTTTGGTTGTGATGCTACTCT

[illegible][illegible]

1

Fig. 21I

SEQ ID NO 43 (HCC144)

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CTTTAGCCCCGGGTTCGGCTCAGAAAAATCCAGCTCGTAAACACCAACGGCAGTTGGCAC
ATCAACAGGACTGCCCTGAACTGCAACGACTCCCTCCAAACAGGGTTCTTTGCCGCAC
TATTCTACAAACACAAATTCAACTCGTCTGGATGCCCAGAGCGCTTGGCCAGCTGTCTG
CTCCATCGACAAGTTGCTCAGGGGGTGGGGTCCCCTCACTTACACTGAGCCTAACAGC
TCGGACCAGAGGCCCTACTGCTGGCACTACGCGCCTCGACCGTGTGGTATTGTACCCG
CGTCTCAGGTGTGCGGTCCAGTGTAATTGCTTCACCCCGAGCCCTGTTGTGGTGGGGAC
GACCGATCGGTTTGGTGTCCCCACGTATAACTGGGGGGCGAACGACTCGGATGTGCTG
ATTCTCAACAACAAGCGCGCGCGCGAGGCAACTGGTTCCGGCTGTACATGGATGAATG
GCACTGGGTTACCAAGACGTGTGGGGGGCCCCCGTGCAACATCGGGGGGGCGCGGCA
ACAACACCTTGACCTGCCCCACTGACTGTTTTCGGAAGCACCCCGAGGGCCACCTACGC
CAGATGCGGTTCTGGGCCCCCTGGCTGACACCTAGGTGTATGGTTCAATTACCCATATAGG
CTCTGGCACTACCCCTGCACTGTCAACTTCACCATCTTCAAGGTTAGGATGTACGTGGG
GGGCGTGGAGCACAGGTTTCAAGCCCGCATGCAATTGGACTCGAGGAGAGCGTTGTGA
CTTGGAGGACAGGGATAGATCAGAGCTTAGCCCGCTGCTGCTGTCTACAACAGGTGAT
CGAGGGCAGACACCATCACCACCATCACTAATAG

SEQ ID NO 45 (HCC164)

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GGAAGTGGGCTAAGGTTTTGGTTGTGATGCTACTCTTTGCCGGCGTTCGACGGGGCATAC
CCGCGTGTTCAGGAGGGGCGAGCAGCCTCCGATACCAGGGGGCCTTGTGTCCCTCTTTAGC
CCCGGGTTCGGCTCAGAAAAATCCAGCTCGTAAACACCAACGGCAGTTGGCACATCAAC
AGGACTGCCCTGAACTGCAACGACTCCCTCCAAACAGGGTTCTTTGCCGCACTATTCT
ACAAACACAAAATTCAACTCGTCTGGATGCCCAGAGCGCTTGGCCAGCTGTGCTCCAT
CGACAAGTTGCTCAGGGGTGGGGTCCCCTCACTTACACTGAGCCTAACAGCTCGGAC
CAGAGGGCCCTACTGCTGGCACTACGCGCCTCGACCGTGTGGTATTGTACCCGCGTCTC
AGGTGTGCGGTCCAGTGTAATTGCTTCACCCCGAGCCCTGTTGTGGTGGGGACGACCGA
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AACAACACGCGGCGCGCGAGGCAACTGGTTCCGGCTGTACATGGATGAATGGCACT
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ACCTTGACCTGCCCCACTGACTGTTTTCGGAAGCACCCCGAGGGCCACCTACGCCAGAT
GCGGTTCTGGGCCCCCTGGCTGACACCTAGGTGTATGGTTCAATTACCCATATAGGCTCTGG
CACTACCCCTGCACTGTCAACTTCACCATCTTCAAGGTTAGGATGTACGTGGGGGGCG

TGGAGCACAGGTTTCSAAGCCGCATGCAATTGGACTCGAGGAGAGCGTTGTGACTTGGA
GGACAGGGATAGATCAGAGCTTAGCCCCGCTGCTGCTGTCTACAACAGAGTGGCAGATA
CTGCCCTGTTCTTCACCAACCTGCCGGCCCTATCCACCGGCCTGATCCACCTCCATCA
GAACATCGTGGACGTGCAATACCTGTACGGTGTAGGGTGGCGGTTGTCTCCCTTGTC
ATCAAATGGGAGTATGTCTGTTGCTCTTCTCTCTCTGGCAGACGCGCGCATCTGCGC
CTGCTTATGGATGATGCTGCTGATAGCTCAAGCTGAGGGCCGCTTAGAGAACCTGGTG
GTCCTCAATGCCGGCGGCGGTGGCGGGGGCGCATGGCACTCTTCTCTCTTGTGTTCTT
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SEQ ID NO 47 (HCC:65)

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 ATCTTCCTCTTTGGCTTTGCTGTCTGTCTGACCGTTCCAGCTTCGGCTTATGAAAGTGGC
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 GAGGCAGCGGACATGATCATGCACACCCCCGGGTGGCTGCCCTGCGTTCCGGGAGAAC
 AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCAGGCTCGCAGCTAGGAACGCCAGCG
 TCCCCACCACGACAATACGACGCCACGTGATTTGCTCGTTGGGGCGGCTGCTTTCTG
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 CCATCTCGCCTCGCCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCCG
 CCACATAACGGGTACCGTATGGCTTGGGATATGATGATGAACTGGTGCCTACAACG
 GCCCTGGTGGTATCGCAGCTGCTCCGATCCCACAAGCTGTCTGGACATGGTGGCGG
 GGGCCCATTTGGGGAGTCTGGCGGGCCTCGCCTACTATTCCATGGTGGGGAACTGGGC
 TAAGGTTTTGTTGTGATGCTACTCTTTGCCGGCGTCGACGGGCATACCCGCGTGTGAG
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 TTCAACTCGTCTGGATGCCCAGAGCGCTTGGCCAGCTGTCTGCTCCATCGACAAGTTCC
 CTCAGGGGTGGGGTCCCCCTCACTTACACTGAGCCTAACAGCTCGGACCAGAGGCCCTA
 CTGCTGGCACTACGCGCCTCGACCGTGTGGTATTGTACCCGCGTCTCAGGTGTGCGGT
 CCAGTGTATTGCTTCACCCCGAGCCCTGTTGTGGTGGGGACGACCGATCGGTTTTGGTGT
 CCCCACGTATAACTGGGGGGCGAACGACTCGGATGTGCTGATTCTCAACAACACGCGG
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 CGTGTGGGGGGCCCCCGTGCAACATCGGGGGGGCGGGCAACAACACCTTGACCTGCC

[illegible]

Fig. 21K

CCACTGACTGTTTTCGGAAGCACCCCGAGGCCACCTACGCCAGATGCGGTTCTGGGCC
CTGGCTGACACCTAGGTGTATGGTTCATTACCCATATAGGCTCTGGCACTACCCCTGCA
CTGTCAACTTCACCATCTTCAAGGTTAGGATGTACGTGGGGGGCGTGGAGCACAGGTT
CGAAGCCGCATGCAATTGGACTCGAGGAGAGCGTTGTGACTTGGAGGACAGGGATAG
ATCAGAGCTTAGCCCCGCTGCTGCTGTCTACAACAGAGTGGCAGATACTGCCCTGTTCC
TTCACCACCCCTGCCGGCCCTATCCACCGGCCTGATCCACCTCCATCAGAACATCGTGG
ACGTGCAATACCTGTACGGTGTAGGGTCGGCGGTTGTCTCCCTTGTCAATGTTGGA
GTATGTCTGTGTTGCTCTTCTCTCTCTGGCAGACGCGCGCATCTGCCCTGCTTATGGA
TGATGCTGCTGATAGCTCAAGCTGAGGCCGCTTAGAGAACCTGGTGGTCTCAATGC
GGCGGGCGTGGCGGGGGCGCATGGCACTCTTCTCTCTGTTCTTCTGTGCTGCCT
GGTACATCAAGGGCAGGCTGGTCCCTGGTGGCGCATACGCCCTTCTATGGCGTGTGGCC
GCTGCTCCTGCTTCTGCTGGCCTTACCACCACGAGCTTATGCCTAGTAAGCTT

SEQ ID NO 49 (HCC168)

ATGAGCACGAATCCTAAACCTCAAAGAAAAACCAAACGTAACACCAACCGCCGCCCA
CAGGACGTCAAGTTCCCGGGCGGTGGTCAGATCGTTGGTGGAGTTTACCTGTTGCCGC
GCAGGGGGCCCCAGGTTGGGTGTGCGCGCGACTAGGAAGACTTCCGAGCGGTGCAAC
CTCGTGGGAGGCGACAACCTATCCCCAAGGCTCGCCGACCCGAGGGTAGGGCCCTGGG
CTCAGCCCGGGTACCCCTTGGCCCTCTATGGCAATGAGGGCATGGGGTGGGCAGGATG
GCTCCTGTACCCCGCGGCTCTCGGCCTAGTTGGGGCCCTACAGACCCCGGCGTAGG
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AGCGTCCCCACCACGACAATACGACGCCACGTGATTTGCTCGTTGGGGCGGCTGCTT
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[illegible]

TGGGCTCAGAAAATCCAGCTCGTAAACACCAACGGCAGTTGGCCACATCAACAGGACT
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TTATGGATGATGCTGCTGATAGCTCAAGCTGAGGCGCGCCTTAGAGAACCTGGTGGTCC
TCAATGCGGCGCGCGTGCGCGGGGCGCATGGCACTCTTTCCTTCCTTGTGTTCTTCTGT
GCTGCCTGGTACATCAAGGGCAGGCTGGTCCCTGGTGGCGCATACGCCTTCTATGGCG
TGTGGCGCGCTGCTCCTGCTTCTGCTGGCCTTACCACCACGAGCTTATGCCTAGTAA

Fig. 22

OD measured at 450 nm
construct

Fraction	volume	dilution	39 Type 1b	40 Type 1b	62 Type 3a	65 Type 5a
START	23 ml	1/20	2.517	1.954	1.426	1.142
FLOW THROUGH	23 ml	1/20	0.087	0.085	0.176	0.120
1	0.4 ml	1/200	0.102	0.051	0.048	0.050
2			0.396	0.550	0.090	0.067
3			2.627	2.603	2.481	2.372
4			3	2.967	3	2.694
5			3	2.810	2.640	2.154
6			2.694	2.499	1.359	1.561
7			2.408	2.481	0.347	1.390
8			2.176	1.970	1.624	0.365
9			1.461	1.422	0.887	0.604
10			1.286	0.926	0.543	0.519
11			0.981	0.781	0.294	0.294
12			0.812	0.650	0.249	0.199
13			0.573	0.432	0.239	0.209
14			0.653	0.371	0.145	0.184
15			0.441	0.348	0.151	0.151
16			0.321	0.374	0.098	0.106
17			0.525	0.186	0.099	0.108
18			0.351	0.171	0.083	0.090
19			0.192	0.164	0.084	0.087

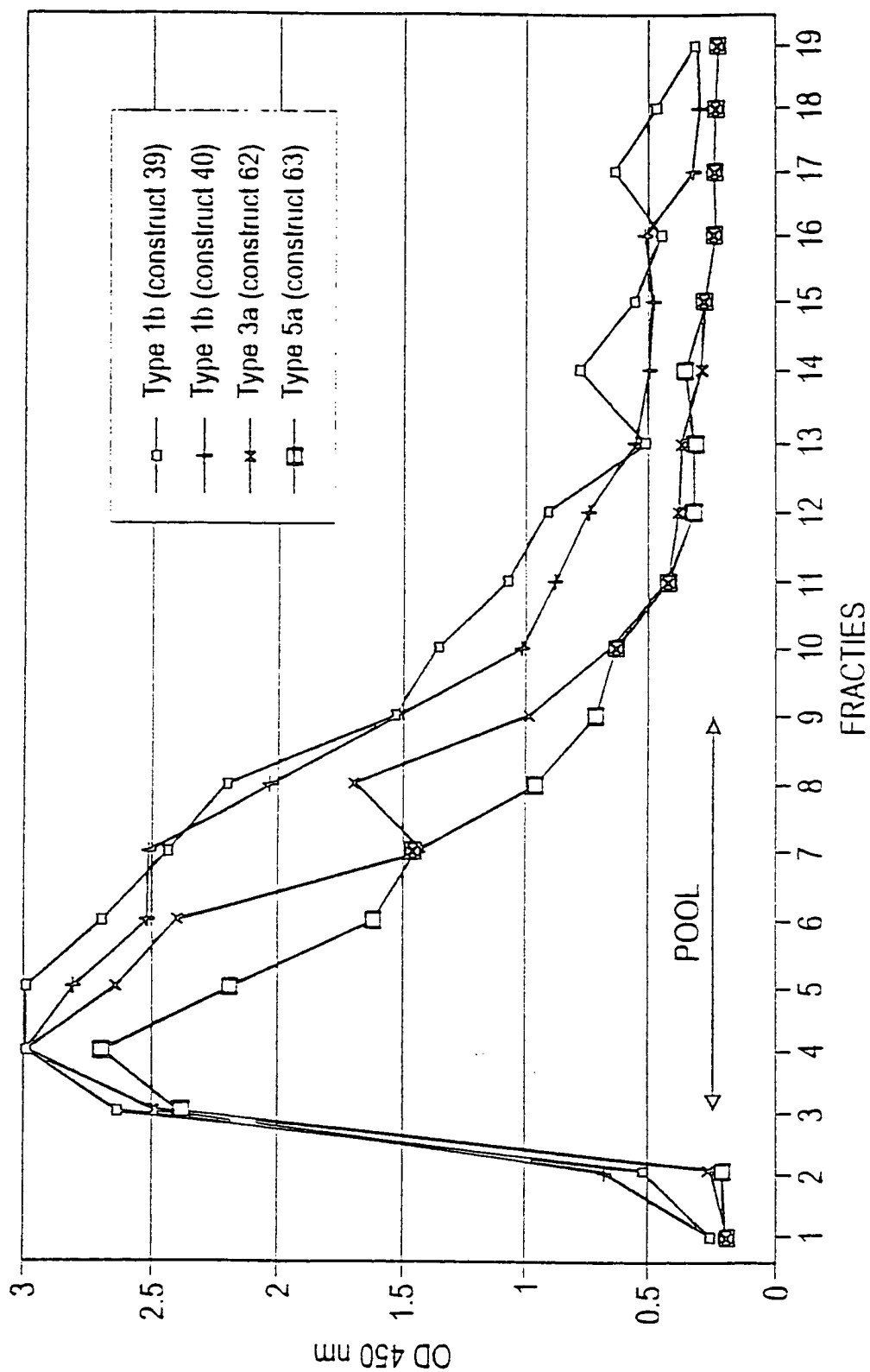


Fig. 23

Figure 24

Fraction	volume	dilution	OD measured at 450 nm			
			construct			
			39 Type 1b	40 Type 1b	62 Type 3a	63 Type 5a
20	250 μ l	1/200	0.072	0.130	0.096	0.051
21			0.109	0.293	0.084	0.052
22			0.279	0.249	0.172	0.052
23			0.093	0.151	0.297	0.054
24			0.080	0.256	0.438	0.056
25			0.25	0.100	0.457	0.048
26			3	1.649	0.722	0.066
27			3	3	2.626	0.889
28			3	3	3	2.345
29			3	3	2.849	2.580
30			2.227	1.921	1.424	1.333
31			0.263	0.415	0.356	0.162
32			0.071	0.172	0.154	0.064
33			0.103	0.054	0.096	0.057
34			0.045	0.045	0.044	0.051
35			0.043	0.047	0.045	0.046
36			0.045	0.045	0.049	0.040
37			0.045	0.047	0.046	0.048
38			0.046	0.048	0.047	0.057
39			0.045	0.048	0.050	0.057
40			0.046	0.049	0.048	0.049

FOUO "00000000"

Figure 1 is a line graph showing the absorbance (AU) versus elution volume (ml) for five different samples (1, 2, 3, 4, 5) using a size exclusion chromatography (SEC) system. The x-axis ranges from 6.0 to 48 ml, and the y-axis ranges from -0.02 to 0.5 AU. The curves show various peaks, with the most prominent ones labeled at 157, 45, 220, 440, and 660 ml. The curves are labeled 1, 2, 3, 4, and 5, corresponding to the different samples.

100

FOREF-0005660

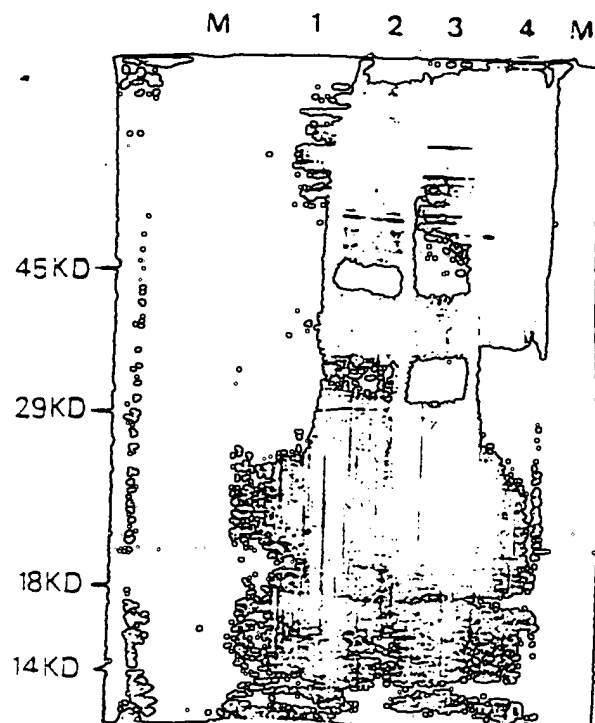


Fig. 26

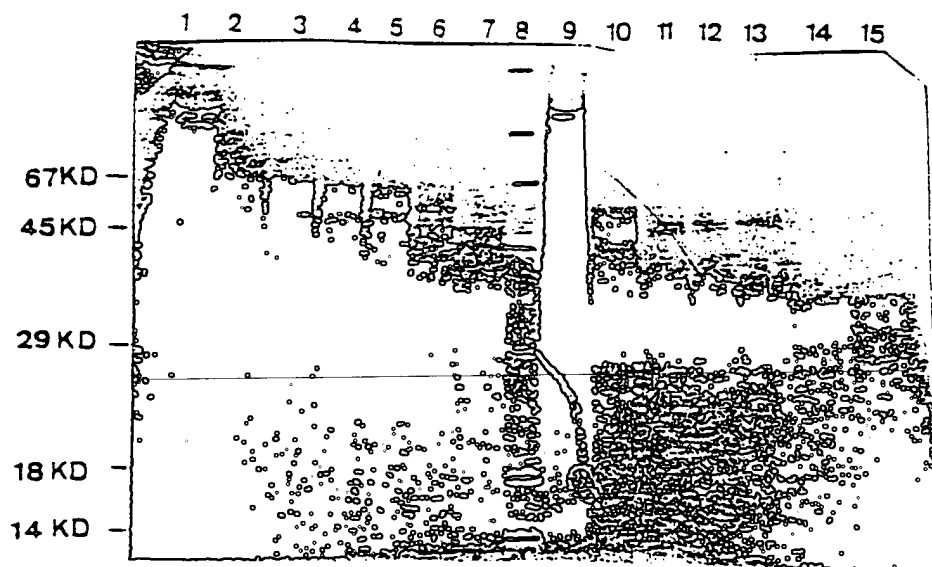


Fig. 27

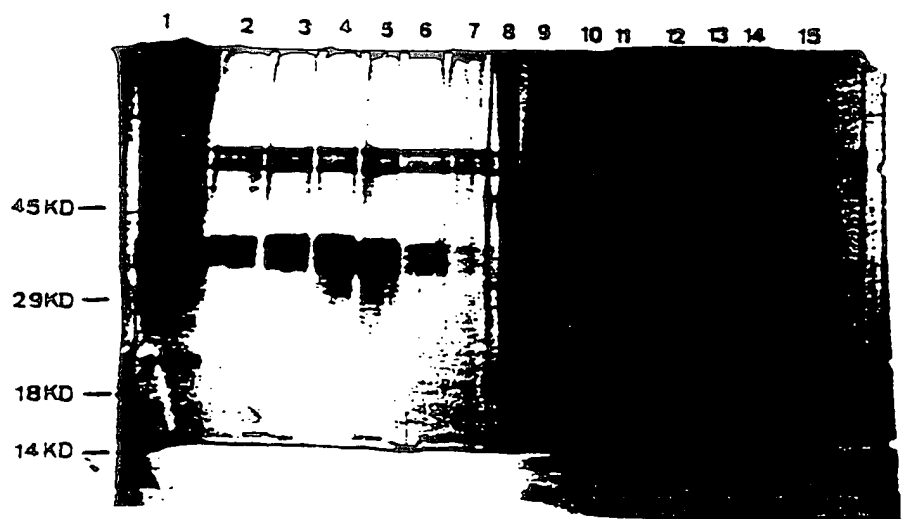


Fig.28

M 1 2 3 4 5 6

67 kD -

45 kD -

29 kD -

18 kD -

14 kD -

Lane 1: Crude Lysate
 Lane 2: Flow through Lentil Chromatography
 Lane 3: Wash with EMPIGEN Lentil Chromatography
 Lane 4: Eluate Lentil Chromatography
 Lane 5: Flow through during concentration lentil eluate
 Lane 6: Pool of E1 after Size Exclusion Chromatography

Fig.29

Fig. 30

NON - REDUCED

100244-090000000

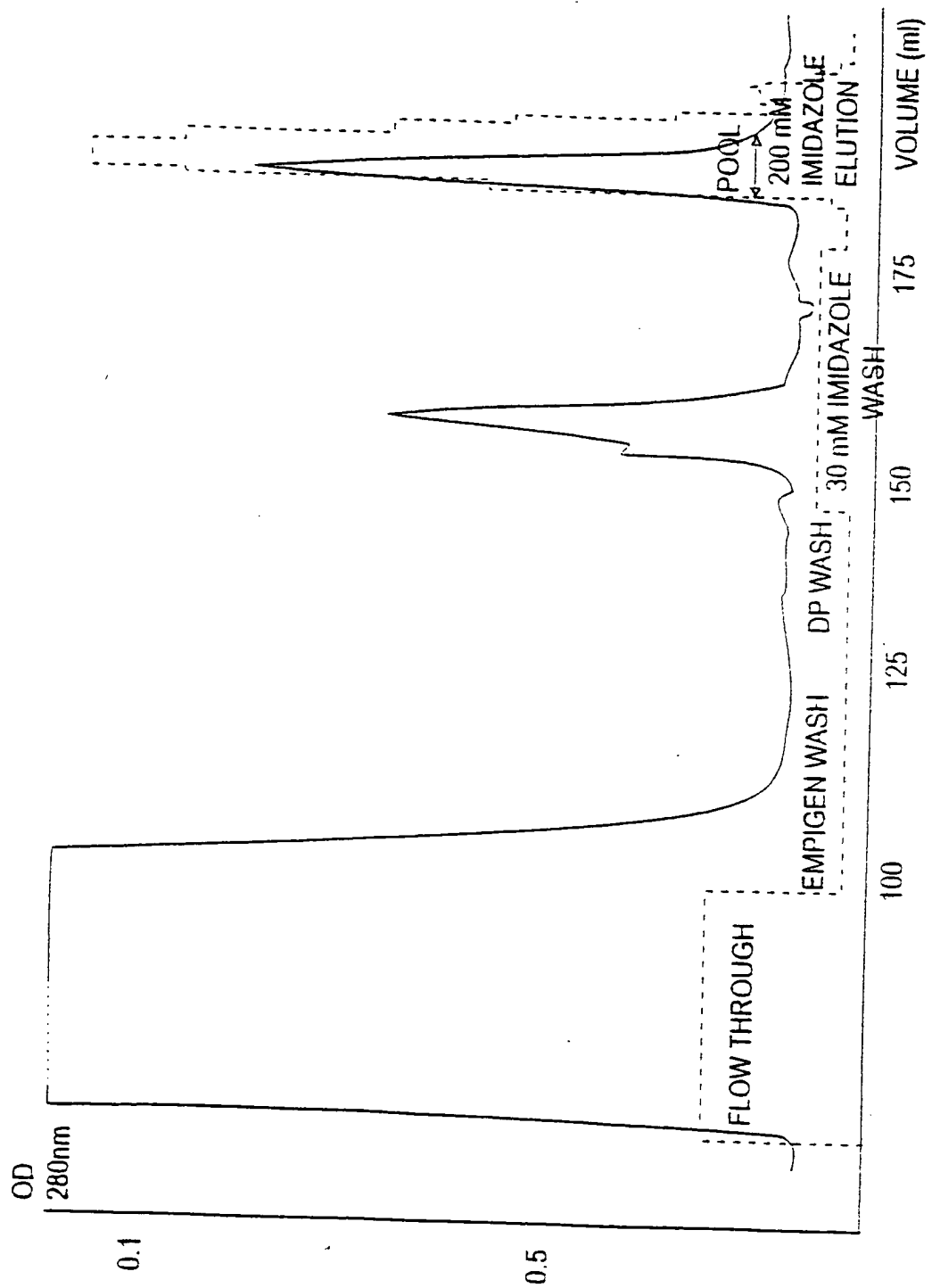
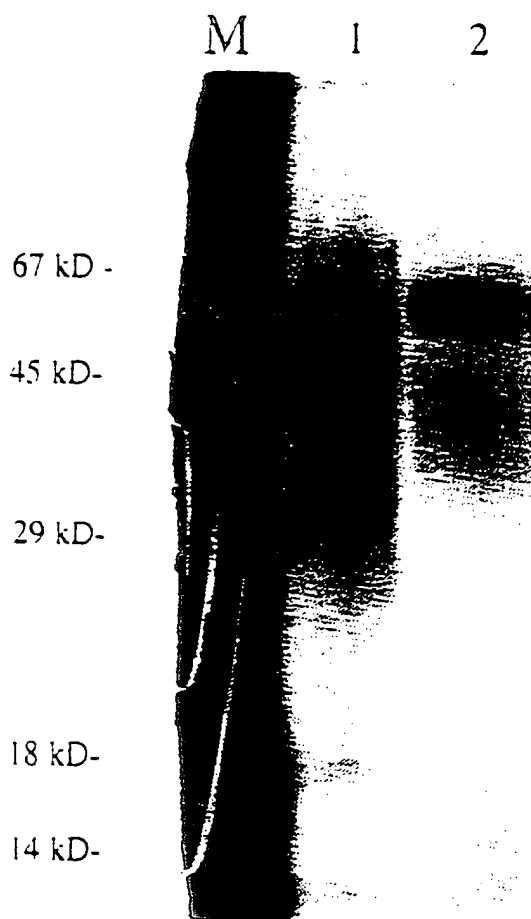


Fig. 32

SILVER STAIN OF PURIFIED E2



1. 30 mM IMIDAZOLE WASH Ni-IMAC
2. 0.5 μ g E2

Fig.33

0995080-1.3901

A histogram showing the distribution of 13 samples. The x-axis is labeled 'ml' and ranges from 0.0 to 0.3. The y-axis ranges from 0 to 80. The histogram bars are numbered 1 through 13. A smooth curve is overlaid on the histogram, peaking at bar 5.

Sample Number	Approximate Height (Y-axis)
1	0
2	5
3	20
4	65
5	90
6	75
7	45
8	25
9	15
10	5
11	0
12	0
13	0

No.	Ret. (min)	Peak start (min)	Peak end (min)	Dur (min)	Area (min ² *mAU)	Height (mAU)
1	0.45	0.46	0.43	0.04	0.0976	4.579
2	1.55	0.75	3.26	2.51	796.4167	889.377
3	3.27	3.26	3.31	0.05	0.0067	0.224
4	3.33	3.32	3.33	0.02	0.0002	0.018

Total number of detected peaks = 4

Total Area above baseline = 0.796522 ml*AU

Total area in evaluated peaks = 0.796521 ml*AU

Ratio peak area / total area = 0.999999

Total peak duration = 2.613583 ml

Fig. 34

106277 03050600

NS4 Ab NR

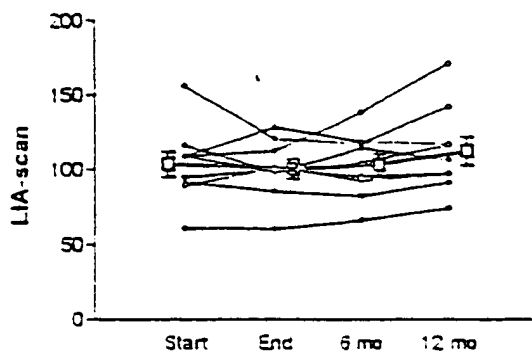


Fig. 35A-1

NS4 Ab LTR

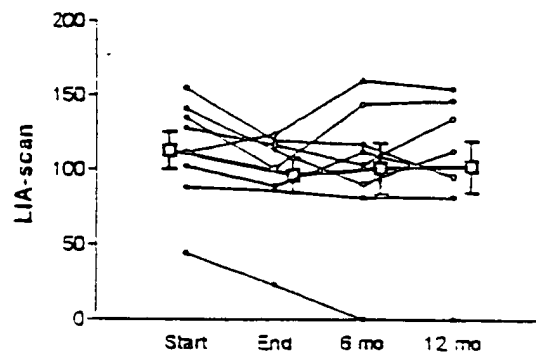


Fig. 35A-2

NS5 Ab NR

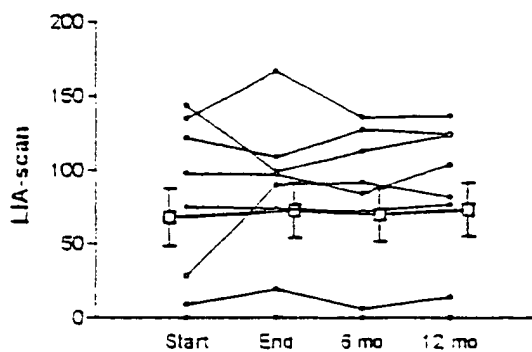


Fig. 35A-3

NS5 Ab LTR

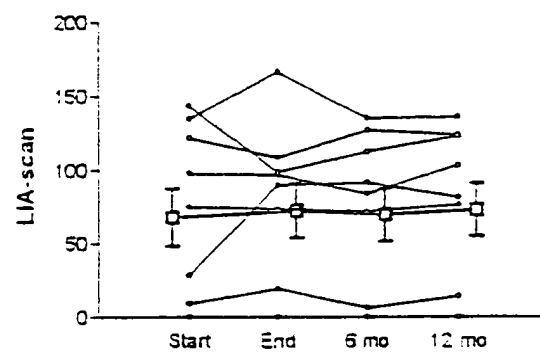


Fig. 35A-4

E1 Ab NR

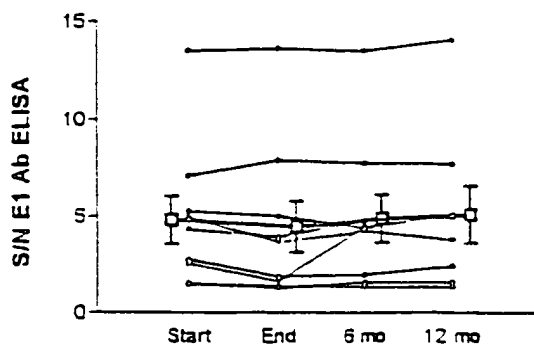


Fig. 35A-5

E1 Ab LTR

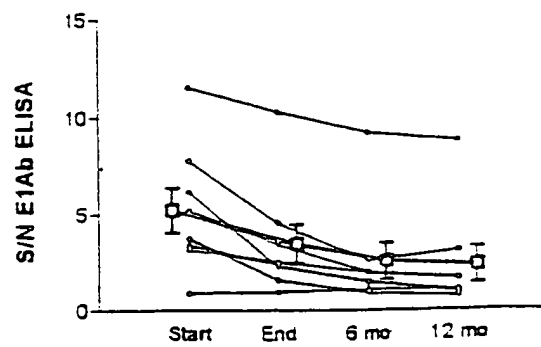


Fig. 35A-6

E2 Ab NR

Subject	Start	End	6 mo	12 mo
1 (Square)	6.5	6.8	6.8	7.0
2 (Triangle)	7.5	6.8	7.2	7.5
3 (Diamond)	9.5	6.8	8.2	8.8
4 (Circle)	6.5	6.8	7.2	7.5
5 (Square)	6.2	5.8	6.5	7.2
6 (Triangle)	5.5	5.0	5.8	5.8
7 (Diamond)	5.2	4.8	5.5	5.8
8 (Circle)	5.0	4.5	4.8	5.5
9 (Square)	4.8	4.2	4.5	5.2
10 (Triangle)	4.5	4.0	4.5	5.0

E2 Ab LTR

Subject	Start	End	6 mo	12 mo
A (circles)	13.5	13.0	12.0	10.0
B (squares)	7.5	9.5	9.5	8.5
C (triangles)	5.5	8.0	7.5	6.5
D (diamonds)	4.5	3.5	3.5	4.5
E (crosses)	7.5	6.5	6.5	4.5

Fig. 35A-8

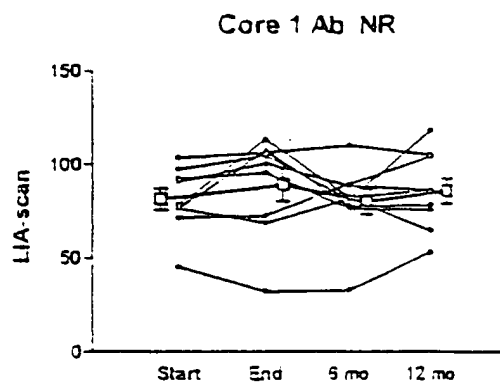


Fig. 35B-1

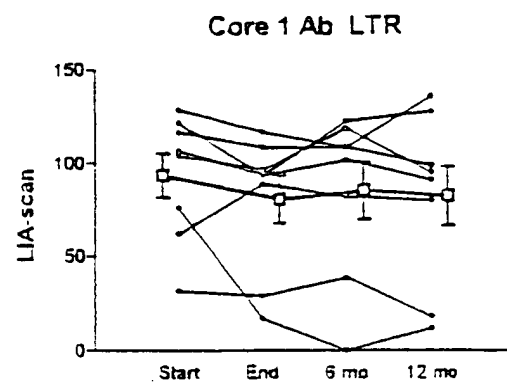


Fig. 35B-2

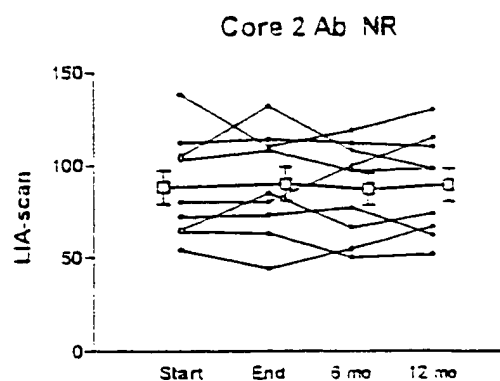


Fig. 35B-3

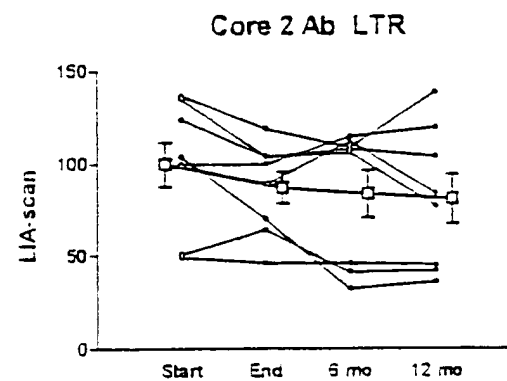


Fig. 35B-4

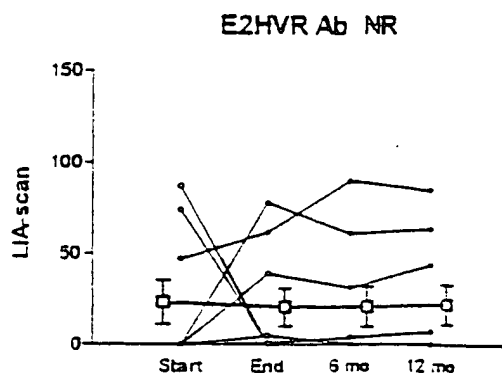


Fig. 35B-5

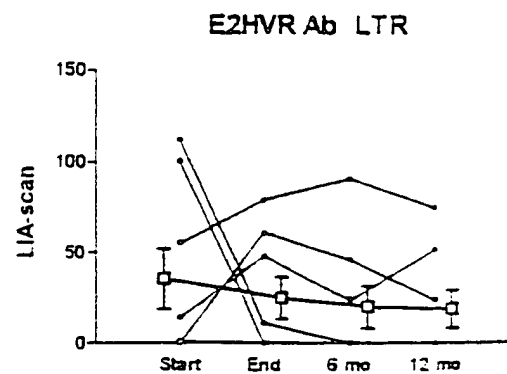


Fig. 35B-6

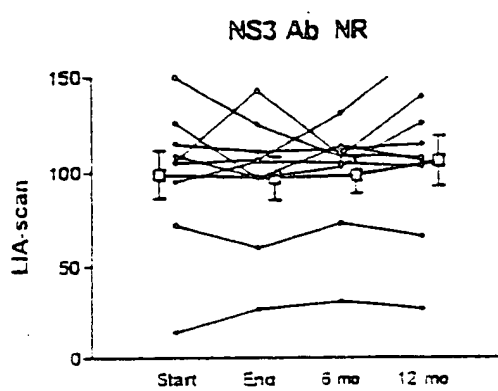
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Fig. 35B-7

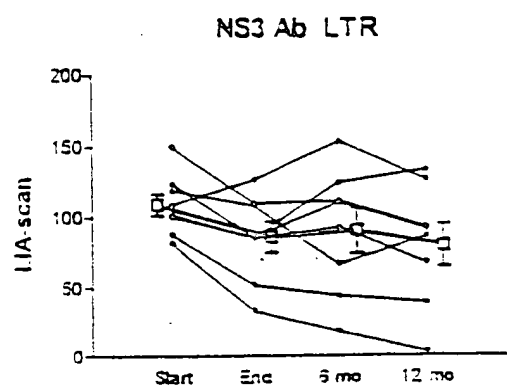


Fig. 35B-8

Fig. 36A

E1 Ab

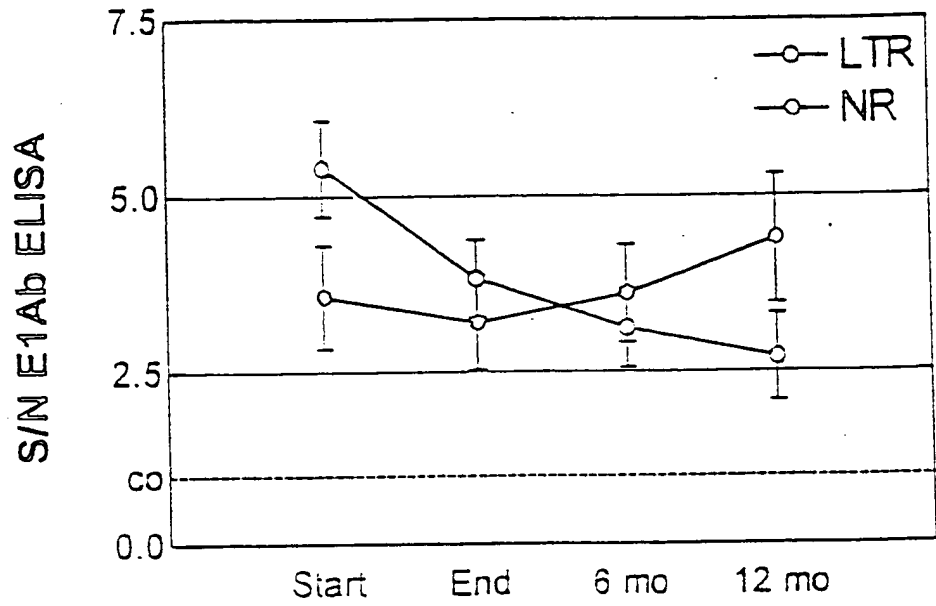


Fig. 36B

E2 Ab

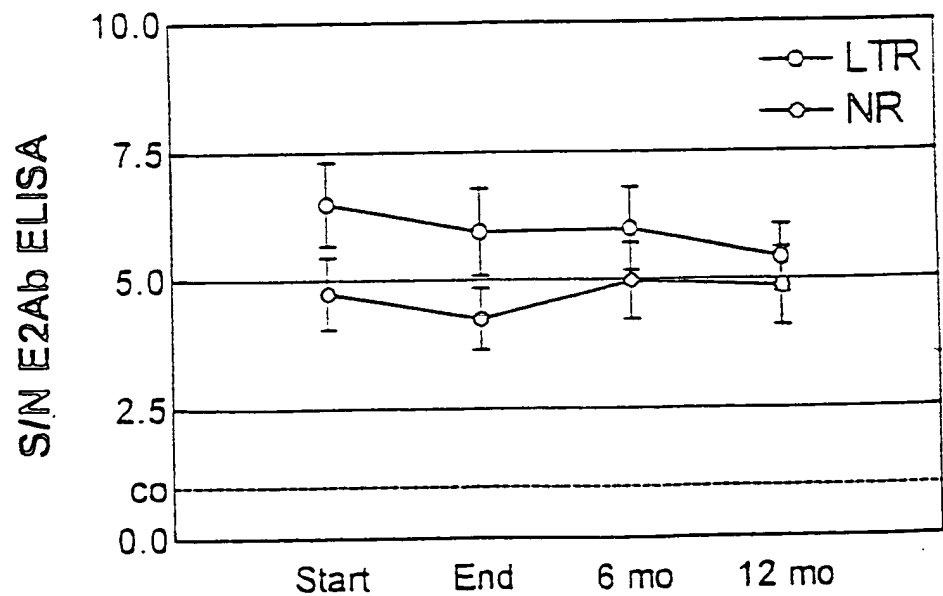


Fig. 37A
Non Responders

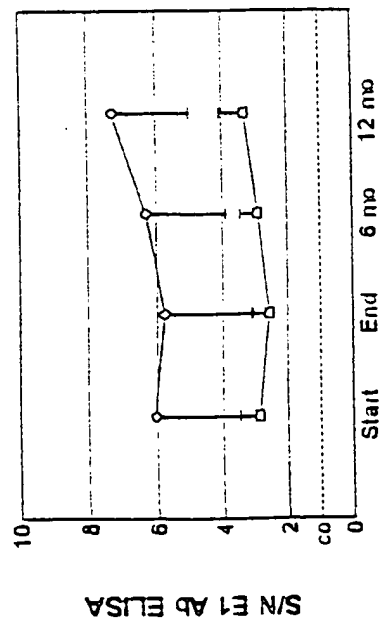


Fig. 37B
Long Term Responders

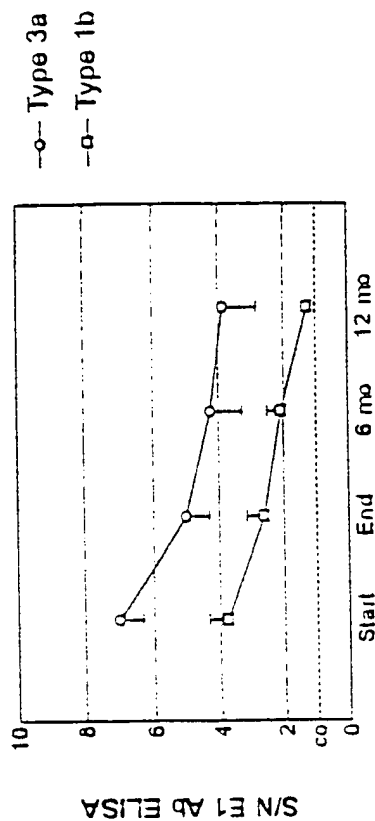


Fig. 37C
Type 1b

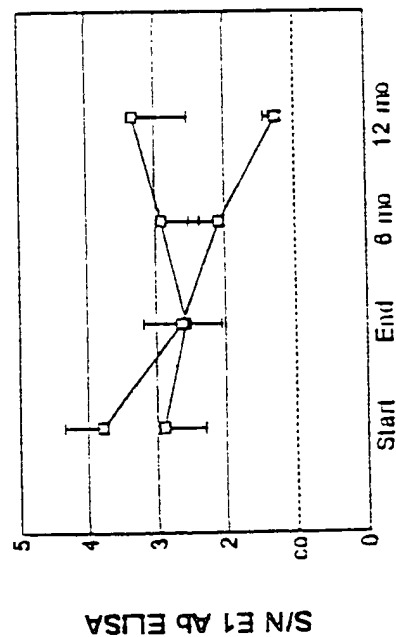


Fig. 37D
Type 3a

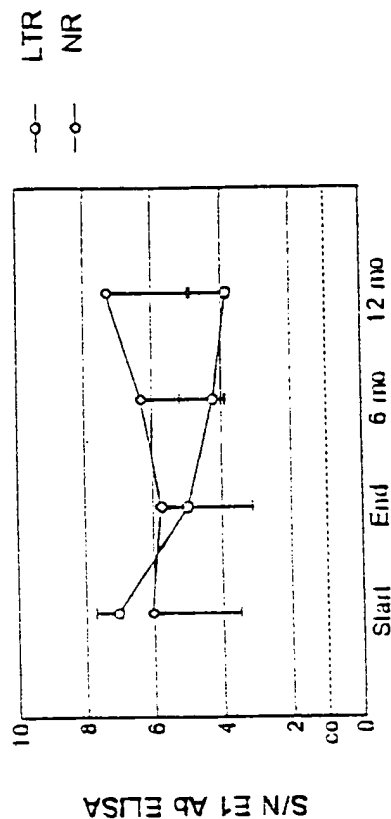


Fig. 38

Relative Map Positions of
anti-E2 monoclonal antibodies

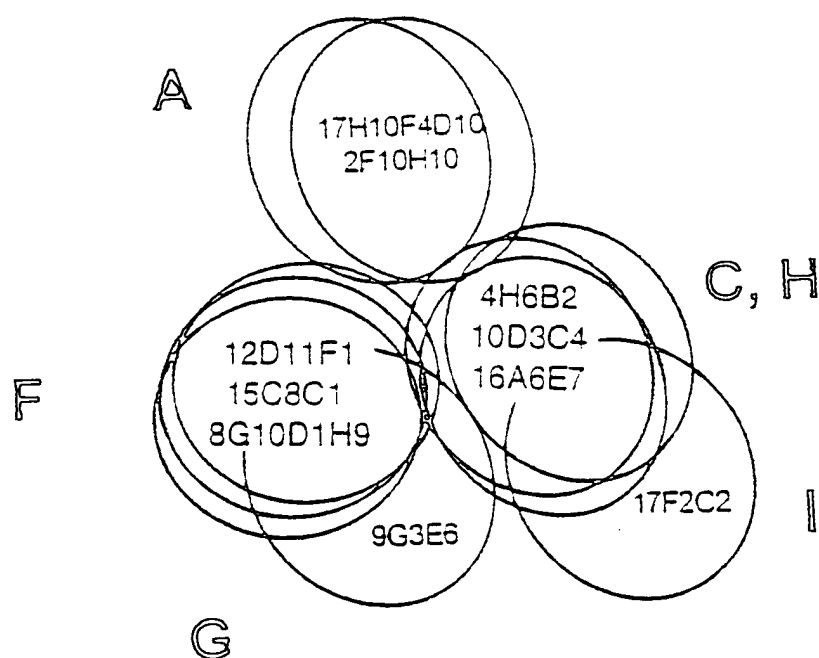
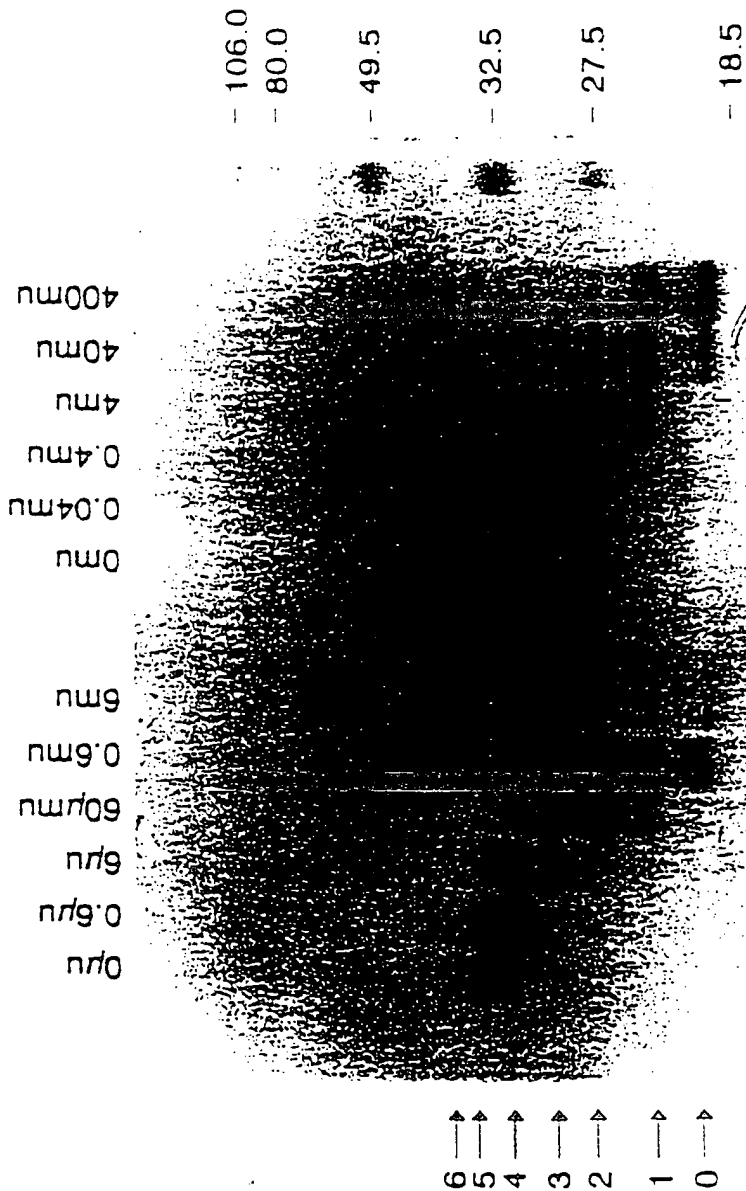


Fig.39

PARTIAL DEGLYCOSYLATION
OF HCV E1 ENVELOPE PROTEIN

Endoglycosidase H (Endo H)		Glycopeptidase F (PNGase F)	
0µl	6µl	0µl	400µl
0.6µl	6µl	0.04µl	40µl
0.6µl	0.6µl	4µl	4µl
6µl	0.6µl		
60µl			
0.6µl			



PARTIAL TREATMENT OF HCV E2\E2s ENVELOPE PROTEINS BY PNGase F

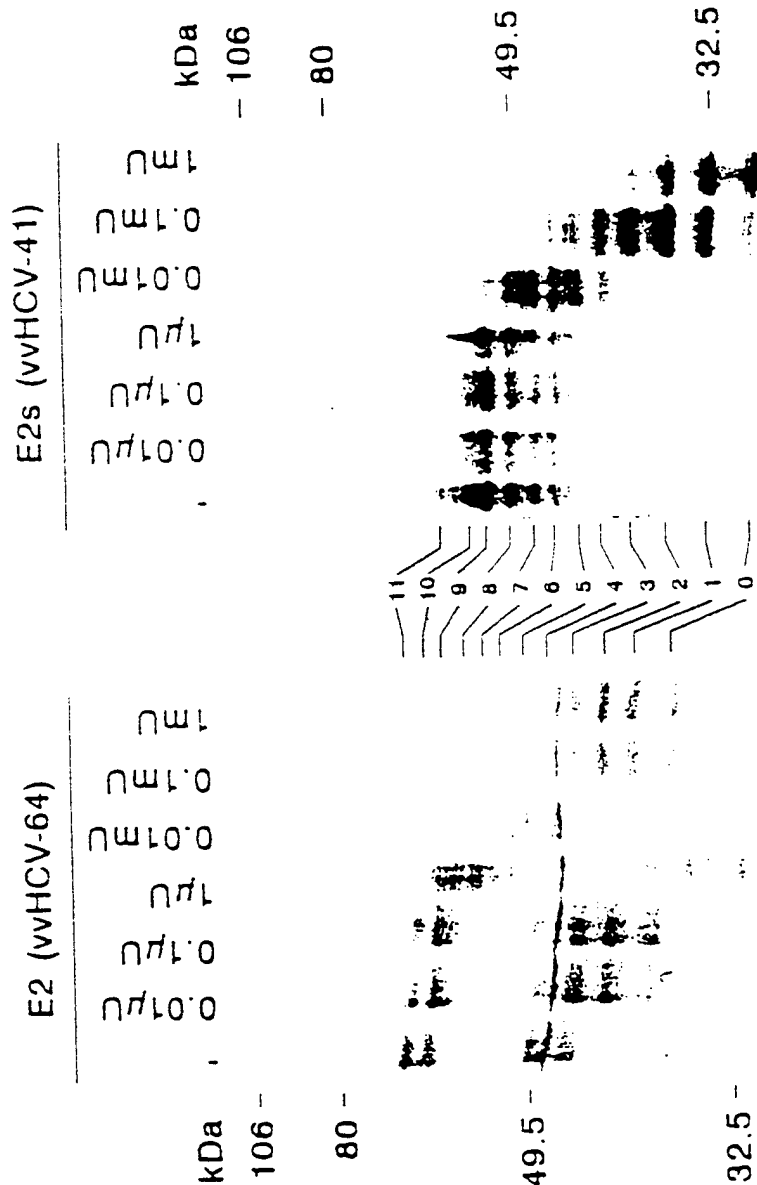


Fig. 40

Fig. 41 *In Vitro* Mutagenesis of HCV E1 glycoprotein

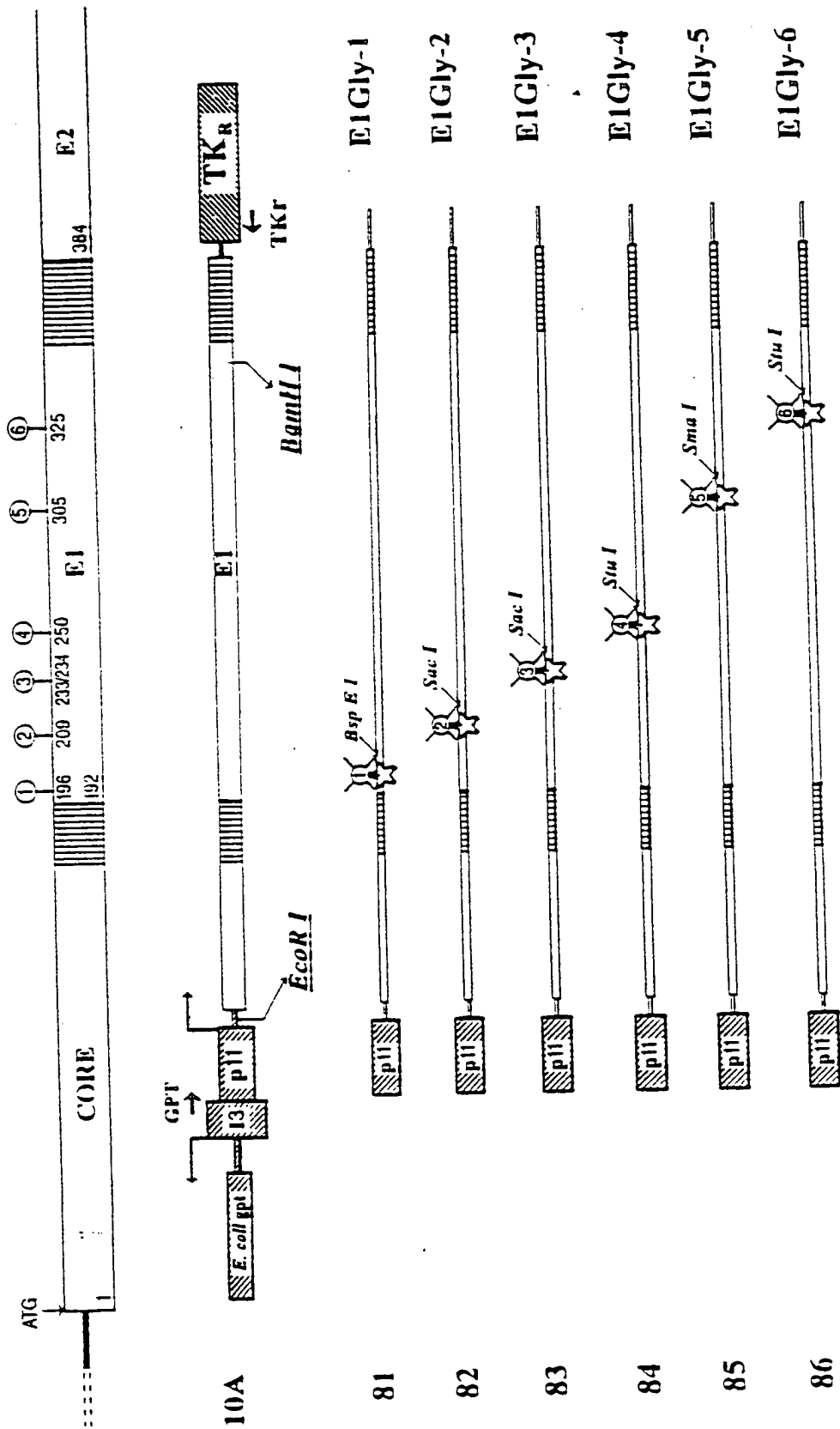
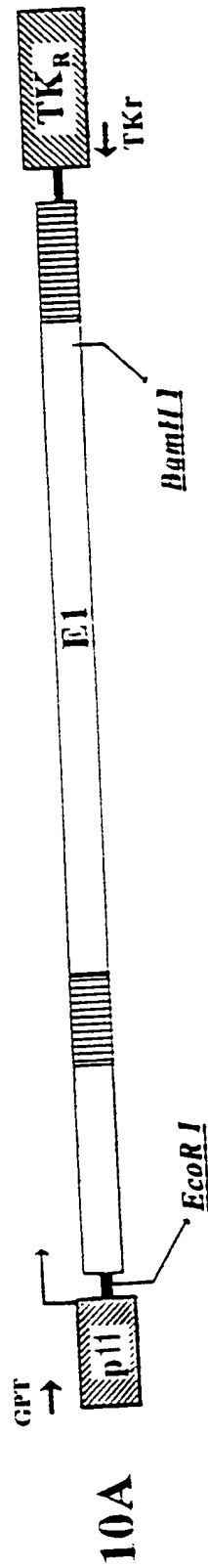
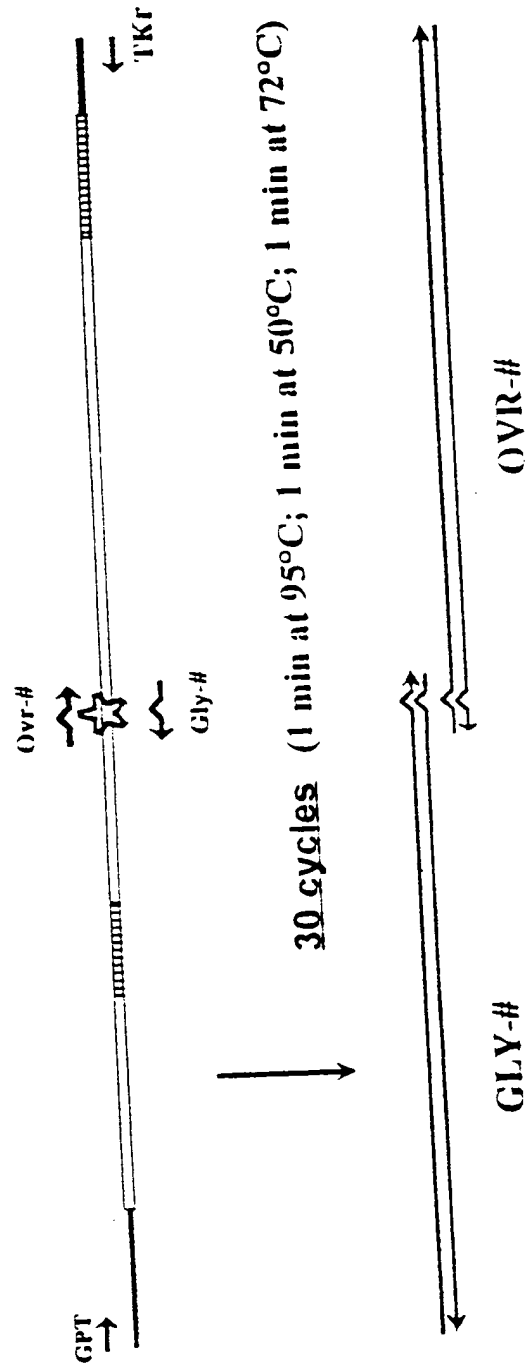


Fig. 42A *In Vitro* Mutagenesis of IICV E1 glycoprotein



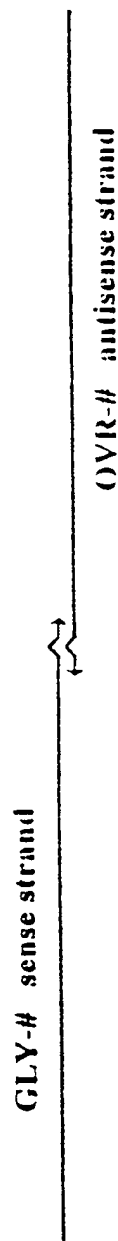
1. First step of PCR amplification (Gly-# and Ovr-# primers)



2. Overlap extension and nested PCR

Fig. 42B

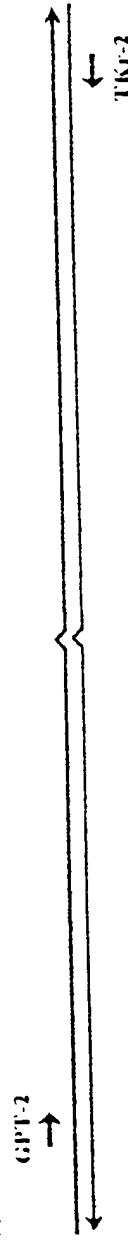
a. Overlap extension



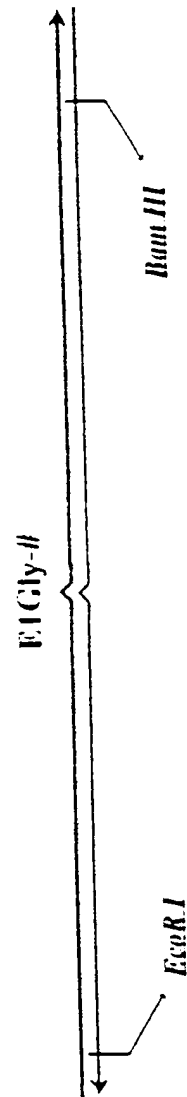
↓
2 cycles (1 min at 95°C; 1 min at 50°C; 1 min at 72°C)



b. Nested PCR amplification (GPT-2 and TKr-2 primers)



↓
25 cycles (1 min at 95°C; 1 min at 55°C; 1 min at 72°C)



— — —



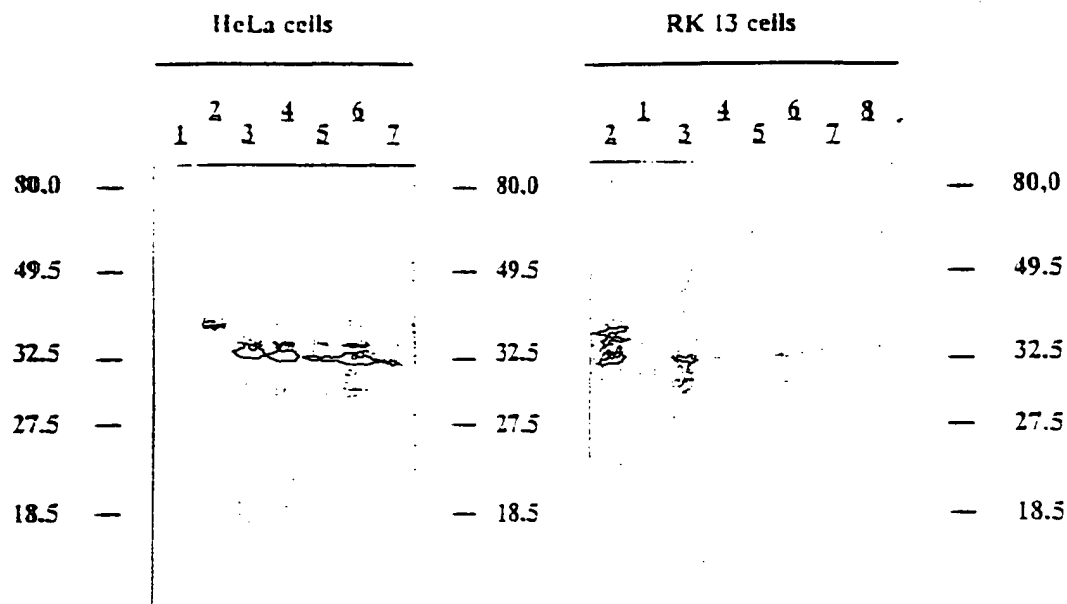


Fig. 44A

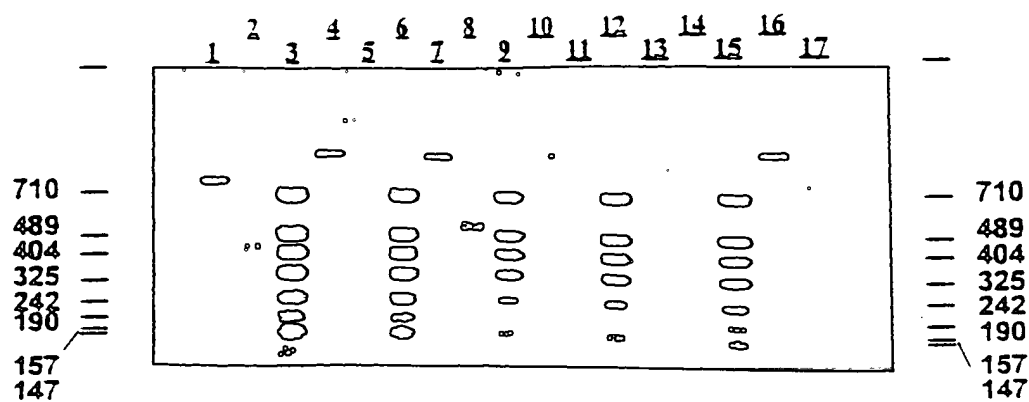


Fig. 44B

Abstract

Fig. 47

	age (years)	HCV infection (years)	genotype
Marcel	17	9	1a
Peggy	21	16.5	1b
Fenna	15	9	1a
Yoran	12	none	
Marti	12	none	

chronic carriers (strong T-cell adjuvant)

↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 50 µg E1 dose
 0 3 6 9 12 15 26 29 32 35 38 41 weeks

naive (alum)

↓ ↓ ↓ ↓ ↓ ↓ 50 µg E1 dose
 0 3 6 9 12 15 weeks

Fig. 48

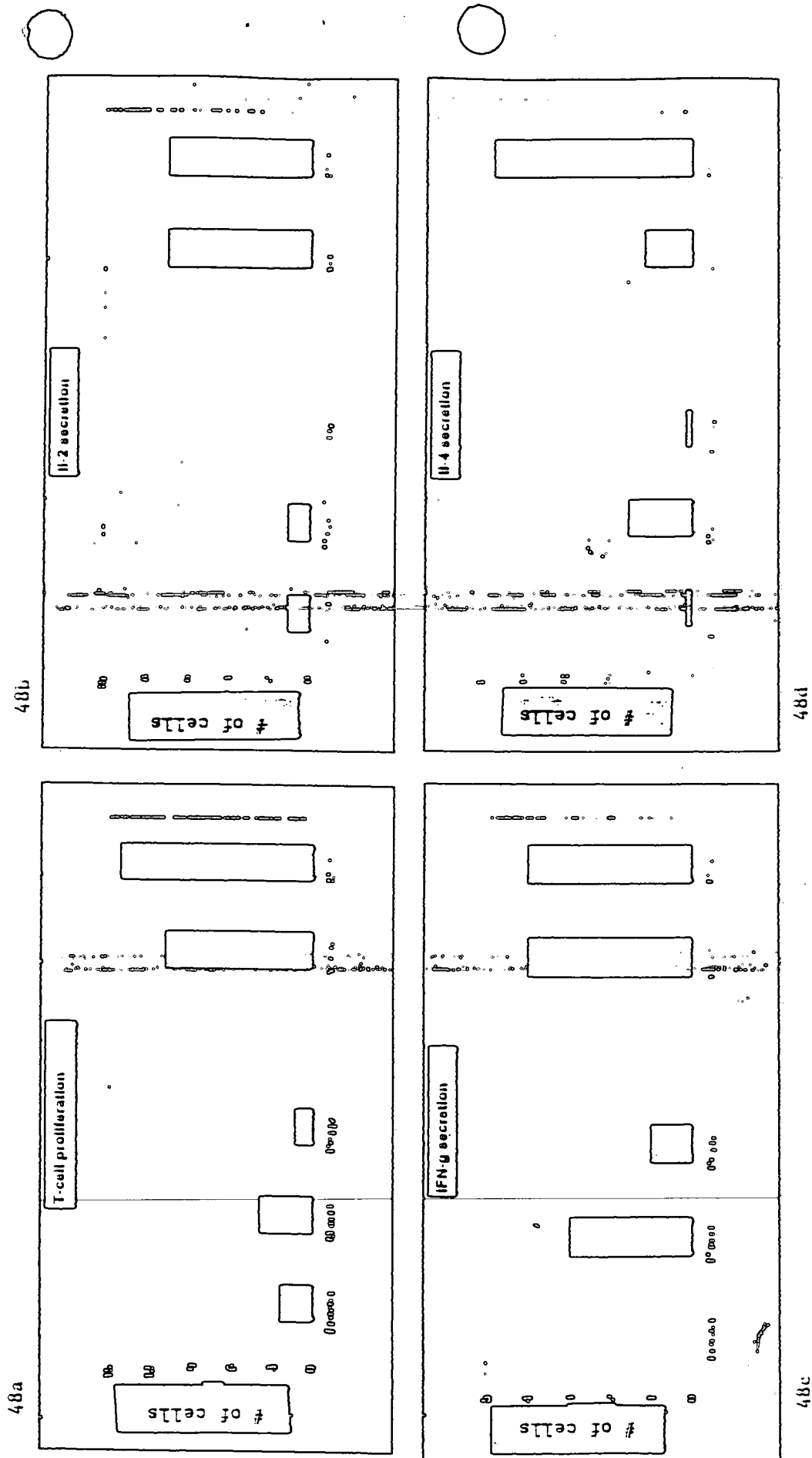
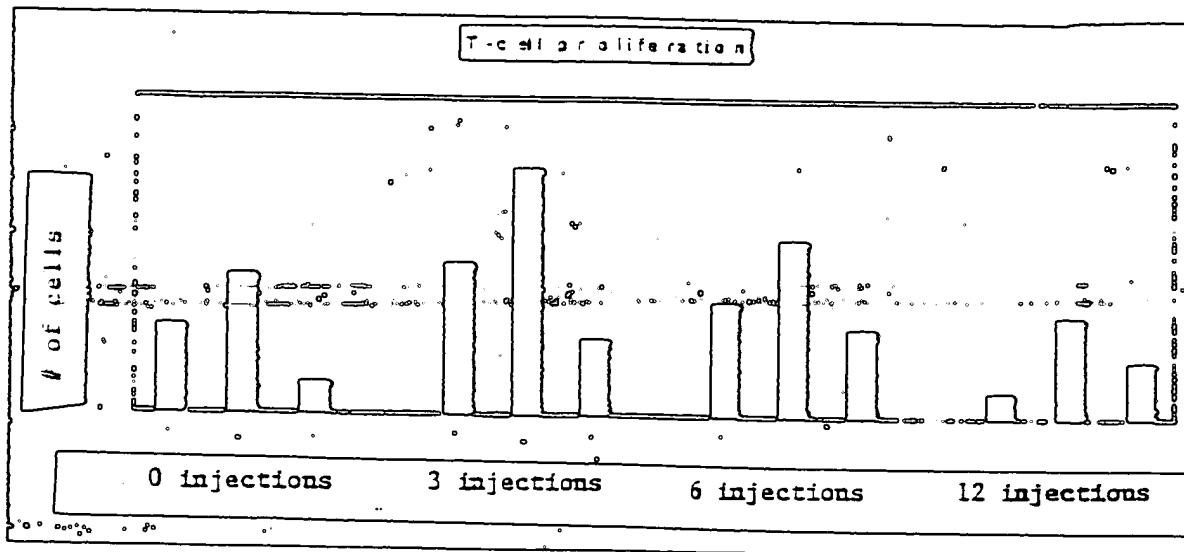
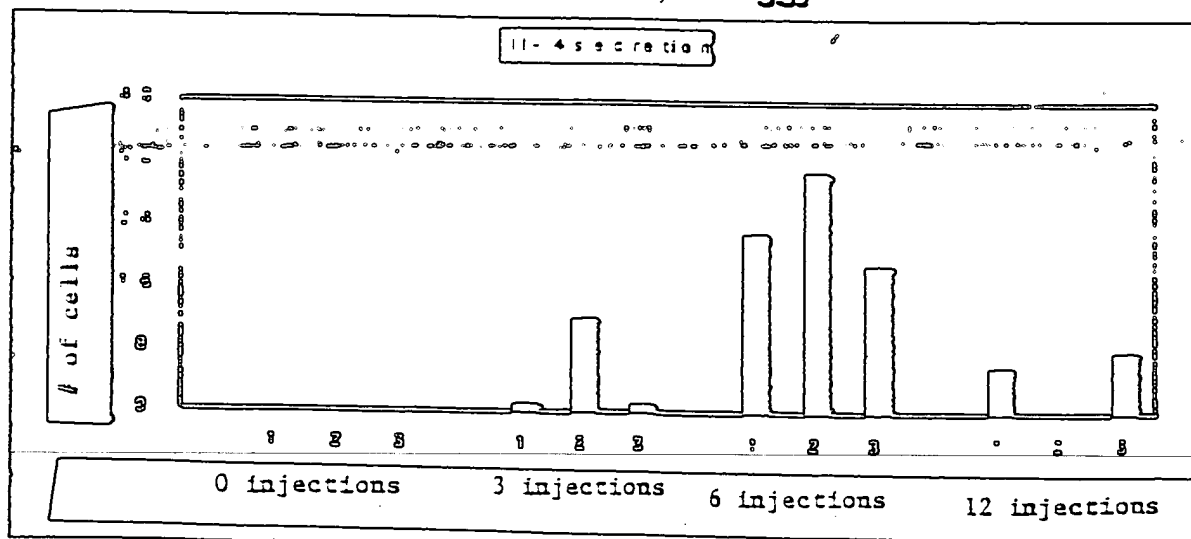
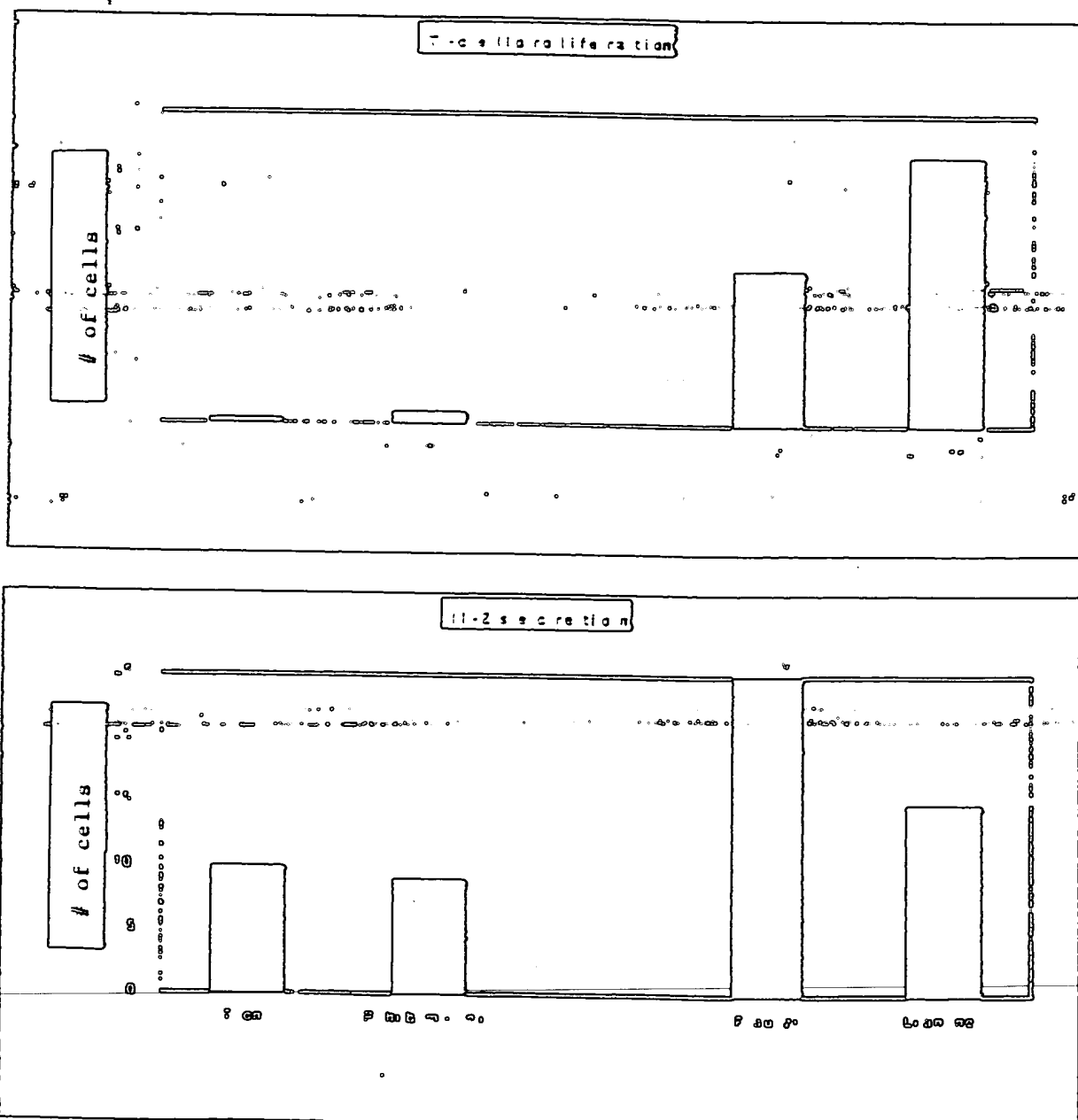


Fig. 49



1 Fem m a, 2 Mar cel, 3 Peggy



[illegible]

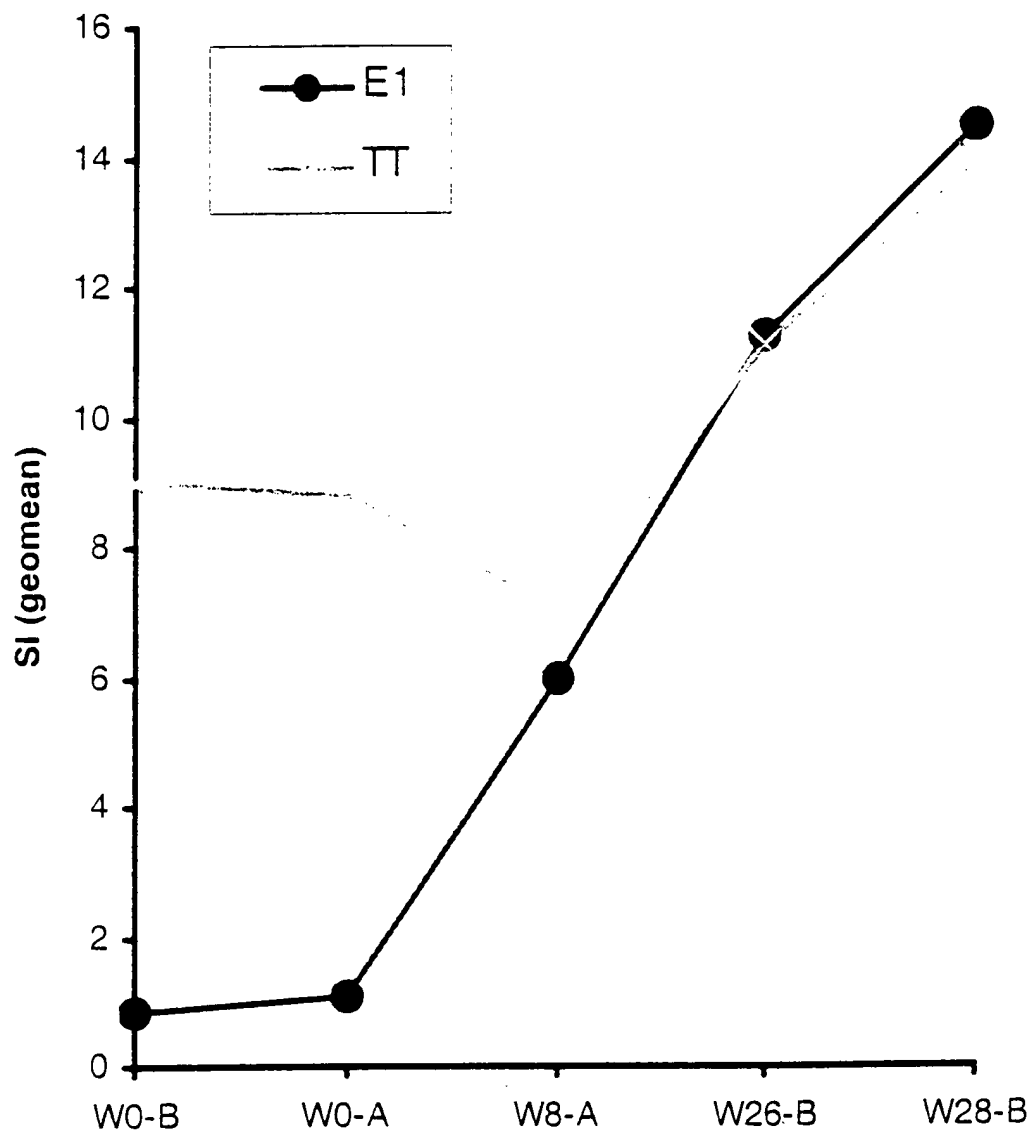


Fig 51

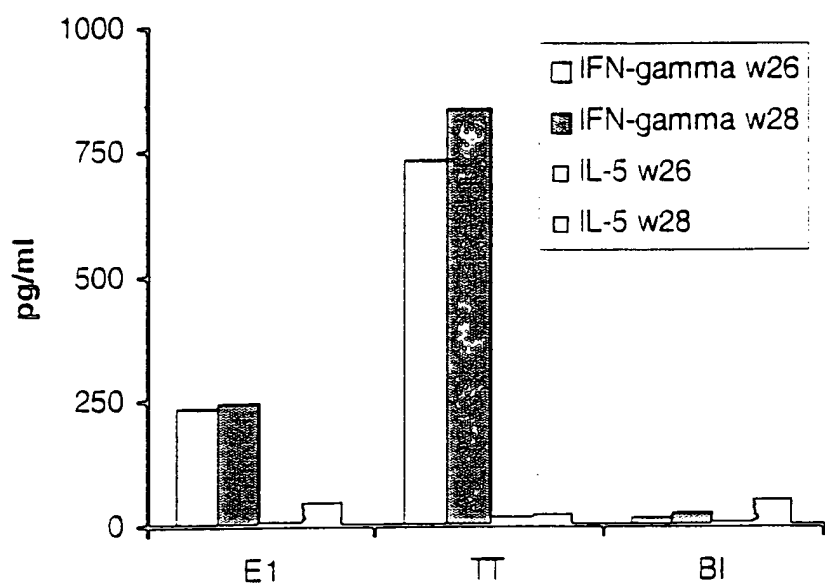
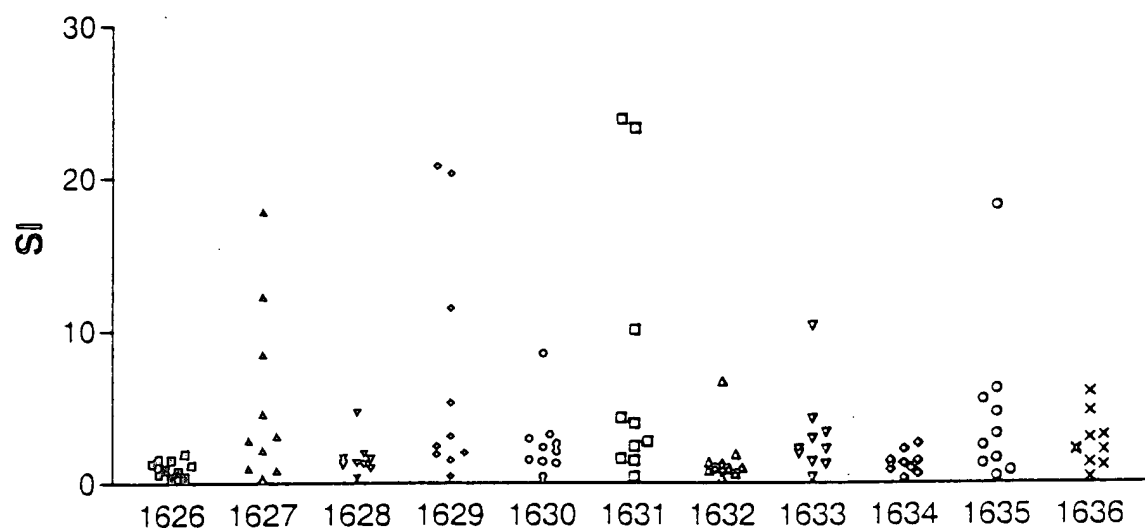


Fig 52

Fig 53

vaccinated



controls

